Think better

What journalists can learn from systems thinkers

Introduction

Why is it important that journalists learn to think better? The short answer is that we live in complicated times, and that as journalists we cannot report on this world in any meaningful way by skating on the tip of the iceberg.

Dealing with wicked problems, society needs thoughtful journalism more than ever. We need publicist media to enhance our knowledge and understanding of the Earth Systems as well as the human systems. Respecting the first and challenging the latter.

We need journalism to cultivate our capability to see and build better futures. With a media system that creates more despair than hope, no wonder our collective ability to imagine positive futures suffers:

- Escalating wars make it easier to imagine a militarized future than a peaceful one
- Images of dead seas tell us that the extinction of thousands of species is unavoidable
- Increasing wildfires, draughts and floods make dystopian climate change seem inevitable
- The rise of autocrats across the planet and wars close by weaken our belief in democracy
- The speed of the AI-revolution makes it hard to imagine how we can avoid a slide of power into the hands of tech giants beyond democratic control
- The effects of our consumption make it seem unrealistic that we can continue living rich lives without undermining the natural systems that support these lives.

Journalism is about getting as close to truth as possible. But what is the truth about the future? And are journalists telling the truth if we describe the future only as a static destination, not as a fluid place in time, moldable and created by the decisions we make today?

Throughout history, humans have had a hard time imagining radical changes to society.

To a slaveowner in the 17th century, the vision of a society without slaves was as unrealistic as equal pay for women teachers was to Winston Churchill. A nobleman in the 18th century would have had a belly laugh if someone told him that, in the future, he would have to pay taxes to the peasants, and that those money would be spent on social welfare, hospitals, and universities with equal access for high and low.

There are endless examples of seemingly impossible futures that have turned real. And yet, today, we still have a hard time believing systems can change in our time. The media plays an important part in this collective lack of imagination.

Journalists who stick to the narrative that radical societal changes are simply unrealistic will often be backed by trusted institutions and powerful people embedded in and dependent on current systems.

Also, like all other human beings, we journalists have our own positive biases, making it far easier to imagine the reality known to us *not* changing in any radical manner. This might explain why sudden shifts like the financial crisis, the mass extinction of species, the severity of climate change, or the war in Ukraine take us by surprise. We simply couldn't imagine that extreme changes like war in Europe, ecological collapse, or financial breakdown was plausible – even though, in hindsight, there were plenty of alarming signs.

Looking at the geopolitical situation and listening to climate scientists we should know that, today, the only truly *un*realistic scenario for the future is the status quo. Yet we keep acting, arguing, and doing journalism as if systems cannot change, and as if humans couldn't change them.

Even in business, where innovation is critical for survival, true innovative disrupters are often treated as crazy outliers and need to leave established companies to realize their system-busting ideas. A manager caught up in present day paradigms will most likely have a hard time taking seriously innovative people capable of imagining alternative futures. And more so often, existing businesses feel threatened by the innovators and discard their ideas out of fear that they will disrupt the current business model of the company.

It is not a coincidence that the media business was not disrupted by journalists, but by tech-people; or that the electric car revolution was sparked by an outlier from the tech industry and not by traditional carmakers, who had too much to lose by leaving their old business model. German carmakers fought against electrification of transport for decades, before Tesla and a parade of Chinese competitors sent the old fossil-based products on a one-way trip to the history books. Unimaginable only a few years earlier.

The first Danish windmill made for electricity production was built 133 years ago at Askov Højskole by a visionary social entrepreneur. But even when one of his students built a bigger and better mill fifty years later, proving that the idea was scalable, society was still not ready to take his project seriously as a source of energy for future homes and factories. Three decades later, in the 1970's, when the hippies argued for wind power and other green energies to phase out the use of fossil power, the dominant discourse was still that renewable energy on societal scale was for unrealistic dreamers.

For most people, it is simply so much easier to stick to dominant paradigms. For journalists, even more so, because we are focused on seeing the world through our users' eyes – to understand and meet their needs. This is not all bad. But it has a flipside.

Journalists risk confining themselves to only mirroring prevalent public sentiment and mindsets, forgetting that it is *also* the media's role to challenge those. A democratic society in transition needs journalism to do both.

Imagine which transformational change it would have made to energy production and climate change today, if we had not wasted 133 years ridiculing and ignoring those visionaries, who saw the potential for a new energy regime long before others.

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In this report, I investigate how systemic thinking can help journalists spot transformative future visions and innovative ideas as well as the systemic flaws and malfunctions.

I have chosen the most wicked problem of them all, the nature crisis, as an example of how understanding systems might make us better journalists. To illustrate why I think this is so important, let me use a short parable.

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Imagine that you live in a village with a deep well. For generations, villagers have lowered the

bucket into the well and drawn up fresh water to drink every day. The village grows, people get livestock, install showers, water their fields, cut down trees to make way for houses and cattle – and everyone keeps getting their water from the well. A bigger bucket is installed, and then a longer line. This goes on for generations.

You are a journalist in this village, and one day, scientists come to tell you that the well is slowly but surely drying out. The village has been using more water than the underground water systems can regenerate. In fact, next year, the well will dry out and the bucket will come up empty, if everyone in the village carries on with business as usual.

It is your job as a journalist to break this news to the village. Even if in their entire life their only experience is that this well will supply them with all the water they need; it is your job to explain why scientists are sure they will soon run out of water.

As a journalist working to enlighten your community with the facts of this world, **it is also your responsibility to report on the implications of a dry well for people's daily lives and for the future of the village.**

Now, luckily scientists have been looking at this problem for years, and they tell you that there are good chances that the village will be able to survive and have enough water for everybody, if they build systems to balance the village's water consumption with the capacity of the well.

The village have to find a fair system to share the water. Perhaps put a price on water, recycle the water they already have or collect rainwater. They could also apply new technologies that lower the villagers' need for water or make it last longer, and maybe even figure out how to restore the ecosystem to make it more resilient: Perhaps cut back on the livestock, regenerate wild nature, keep more moisture in the soil and protect the water systems from being polluted.

As the village journalist, you must investigate the pros and cons of the possible solutions put forward by the experts and villagers and try to include everyone in public conversations about these suggestions and the possible ways forward.

The leaders of the village have already agreed that they will not allow the well to dry out completely and leave future generations – including the kids living in the village today – without water. And they know that the sooner the villagers start extracting less water from the well, the better their chances of survival are.

But through your reporting you soon learn that **this sense of urgency is countered by the inertia of the current system** and the power structures of the village.

Those who are most dependent on extracting water and other resources question the science, argue that they risk being outcompeted by other villages, and propose a delay in new regulation of the water. The farmers, housebuilders, and wood-suppliers warn village-leaders that the economy of the village will break down, if their business is restricted. The shower-company runs campaigns with angry families saying they refuse to stop taking long showers, just because some crazy scientists say so. The elders and the village leader suggest incremental changes and investments in technologies that might mitigate the waterproblem in the future. But they agree that **the current system has improved lives for everyone, and that no one really wants to change it**.

Scientists tell you that these incremental changes will not save the village, and that in fact the well is drying out faster than ever. You notice that some of the youngsters in the village have put up signs by the well, asking the big farmers and builders to immediately stop extracting more water. They must lower their income in the short run to secure everybody's survival in the long run, the young argue. Some even try to block the well. The village elders, businesses and leaders agree that these are radical and unrealistic ideas. **There is plenty of conflict to report on!**

You talk to journalists in neighboring villages, and they tell you that they are in the exact same situation. Their well is also drying out. People are really worried, but their villages also seems paralyzed and out of options to act on it. Meanwhile tensions are building up, and the scientists and the children are screaming louder by the day. UN warns the world that if all villages go on like this, before long, no village on Earth will have water in their well.

What do you do?

Will you continue reporting as always? Mirroring daily life as it goes on around you: After all, nothing has really changed in society, there is still water in the well for some months, and there are many other problems to deal with. There are wars, elections, pandemics, fashion- and love-stories. And honestly, people get tired and depressed when you keep bringing up that old well.

If you choose to view the empty well as just another story, it is really no longer news. You have done your part. You have uncovered the problem. Now the politicians must do theirs. And if they don't, once in a while you can make a critical story about why they don't do more. Or, if they meet up with leaders from other villages to discuss the problems, you can report on that.

If you choose to look at the empty well as a systemic problem, it is a whole different story. Looking at how the community is organized, you see that the village system has built in feedback loops that lead to more and more water extraction, speeding up the disaster. Looking at the natural systems and talking to scientists, you also see that the well is not the *only* problem.

The increasing number of houses, people, livestock and goods leads to the depletion of nature all around the village. You see that the local river is suffering from manure and pesticides and overfishing, that forests regeneration has a hard time keeping up with logging; wild animals are disappearing, and whole ecosystems are starting to break down.

You see that methane from the cattle and CO_2 from burning wood and fossil is filling the atmosphere with greenhouse gases, making the climate warmer and the weather wilder. And that,

if this continues, it means that this village might be taken by the sea before your grandchildren grow old.

With your new systemic perspective, you learn that all these systems are connected and inter-dependent, and that the villagers, like all life on Earth, are dependent on these systems to function and provide them with raw materials, water, food, clean air and bearable temperatures.

How do you act as a responsible journalist in this situation?

It becomes clear to you, that you are reporting from an existential nature crisis, disrupting the entire Earth System. Scientists tell you that the human impact on nature is already changing the basic living conditions for your village, and that these changes are escalating.

Thus, to **make your journalism relevant and realistic**, you intergrade this knowledge into your journalism about any aspect of life in the village.

Because you know, that whichever solutions the village decides on to avoid running out of water, it will have implications for many other aspects of life in the village and for the other natural systems that the villagers depend on. The community must take all these systems into account when transforming their society to create a more sustainable future. Your reporting reflect this.

Your community needs you to facilitate enlightened conversations between experts in nature systems, human systems and representatives of all kinds of people in your community. They need a curious and critical journalist to investigate all the possible solutions, and they need the media to include and engage everyone in public conversations about these suggestions and the possible ways forward.

Your community also needs you to **hold leaders accountable** to build systems that keep everyone safe and well without destroying the nature they depend on. And they need you to ask leaders about their visions for the future – and to hold leaders accountable to get everyone there safely.

To do responsible journalism, you must ask questions about the future, that take into account the knowledge of the present; journalism that will help *everyone* think better.

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About this report:

This report is an attempt to distill some of the reflections I have had during my fellowship at Constructive Institute at Aarhus University, Denmark, where I also got the chance to study Earth Systems Science, Alternative Data Futures, Sustainable Economics, Sustainable Entrepreneurship and Science Fiction with the help of brilliant researchers at Aarhus University.

I draw knowledge from all these studies and disciplines along with a ton of extracurricular reading, meetings, workshops, conferences, and background talks with so many knowledgeable people to whom I am forever grateful for lending me their time.

However, I am particularly indebted to a person I have never met: Donella Meadows, who wrote the book 'Thinking in Systems'. Across time and space, with her clarity in thought and writing,

she convinced me that as journalists, we will have a better chance of fulfilling our role in democracy, if we understand the systems that we are surrounded by and embedded in.

I borrow from Meadows' thinking, applying it to journalistic practice.

Since I have learned that systems are defined by the purpose given to them, my conviction is that clarifying the purpose of the media system will also sharpen its function, and the behavior it creates. **Ideally leading to more enlightenment, empowerment and human agency and less apathy and hopelessness in society.**

Really, there is no news in this report.

System thinking is not a new thing. We all do it all the time, without even knowing it. But getting the tools to do it more consciously has given me a new understanding the world and my role in it as a journalist. If I can manage to give readers of this report just a few of the Eureka moments or moments of clarity that Meadows has given me, it will be worth all the hours of speculation on how to communicate these thoughts to others.

A disclaimer:

This is neither academic research nor journalism, but something in between. I include links to the sources I quote, but I have not adhered to academic standards for citations and note apparatuses. Instead, I have tried to write in a straightforward tone, inviting anyone aboard, using **examples and listing concrete tips and tools for journalists.**

The first three chapters are all about thinking in systems, including **models and guides** on how to do it as a journalist. Chapter 4 introduces the biggest system of them all, the **Earth System**. Chapters 5 and 6 combine all of the above into **tools, tips and takeaways** for journalists who would like to be better at integrating the new conditions for life on Earth in their daily journalism – including the art of **spotting modern greenwashing.** Finally, Chapter 7 outlines the **media's role in democracy**, given the unusual times and challenges we face within our own human systems, within the Earth's systems, and the imbalance between the two.

This report is addressed to fellow journalists who, like me, are curious to find new ways to perform our profession that better match the complexity of the world we report on. But I welcome anyone with an interest in media, democracy, or the power of thinking in systems and asking questions beginning with *'What if..'* and *'Imagine…'*.

***Imagine…* if we could find ways for journalism to enable and qualify public conversations about societal transformation. Acknowledging that our future is not destined, but open to change, and can be turned in infinite directions, dependent on the interplay between Human Agency and the Earth System. Two great forces, hugely underestimated in current reporting.**

If you are in a hurry and want to take a shortcut to journalistic enlightenment - go straight to chapter two and go through the 12 levels of leverage in Systems Thinking.

Good luck – and may the systems be with you!

Tanja Nyrup Madsen

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Table of content

Chapter 1 Thinking in Systems

Among the mountain of pages, I have consumed this year trying to understand this world, Donella H. Meadows' book, 'Thinking in Systems', is by far the one that has changed my perspective most profoundly.

It is her words I see on my wall every time I enter my office. Much like an interesting piece of art that invites you to fall into contemplation again and again when you see it, this sentence has made me stop and think over and over again:

Donella Meadows, 'Thinking in Systems', 2008

To people like Donella Meadows and her scientific peers, systems are everywhere. Your family is a system. Your liver is a system connected to other systems in your body, like your heart or your brains or your veins, which all functions as part of a greater system – your body.

Donella Meadows defines a system as "an interconnected set of elements that is coherently organized in a way that achieves something, or, more simply, any set of things—people, cells, molecules, or whatever—interconnected in such a way that they produce their own pattern of behavior over time".

A newsroom is a system made up of people and tools organized in a way that produces the news people want to pay for - or society wants to fund. You can change the single elements; the chairs, or the computers, or even the individual reporters. But as long as the function or the purpose of the system is the same, the newsroom will reproduce its own pattern of behavior.

It might have come as a shock to you the first time you left a job that the place kept running much unchanged without you? But really, it shouldn't surprise us. Because this is what stable, resilient

systems do. They keep functioning independent of their single parts and resilient to external push or internal turbulence.

In short, systems' behaviors are decided by their core purpose or function – or the function they were meant to exercise when they were built. Your workplace is such a system. And if you ever tried changing it, you know just how resilient it is.

Before applying this logic to the bigger media system, we need to take a closer look at how systems dynamics work – and why it is crucial that we as journalists understand this in a time of multiple global crises.

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The theory of systems dynamics comes from natural science, where it has been (and still is) used to understand the workings of complex systems in nature: the ecosystem of a single tree with its internal water systems, photosynthesis, its symbiosis with fungus, insects or birds and root system connected to other trees' systems. The forest is a bigger system connected to the local freshwater system and the planetary water system which again connects to the weather system.

Together with other systems they form the Earth System with a set of complex balances that keeps our planet livable – neither too hot or too cold, with freshwater, nutrients, and just the right amount of oxygen, energy in the atmosphere etc. It is this entire system that climate scientists and other Earth System scientists are now warning us is getting out of balance.

What these experts in the Earth's systems want us to understand is that this balance cannot be restored without understanding the interconnectedness of the complex system.

The truly mind-blowing thing is that these same logics apply to human systems too. I know it can seem a little too theoretical and head-spinning, when you first hear someone make that claim. If you are already well into this, forgive me for rubbing it in with more examples and metaphors. Sometimes they might add new layers to the understanding. Even if we start really simple:

System thinkers often use the bathtub as a basic analogue of the 'stocks and flows' that make up system dynamics.

Source: Generated by ChatGPT

Imagine a tub that holds a **stock** of water. It has a tap that controls the **flow** of water into the system - and a drainage that controls how much water flows out of the system. For the tub to stay in balance and not overflow or dry out, you must **balance** how much water you let in and how much flows out. To find that balance, you will have to monitor the water levels. With this **information**, you can adjust either the intake or the output or both to keep stable levels.

In the case of the climate: We can adjust the levels of greenhouse gases in the atmosphere by lowering the amount of CO_2 we emit or by enhancing nature's capabilities of sequestering CO2 (plants, forests and healthy oceans are great at doing that).

Since our 'tub' (the atmosphere) has already overflowed with greenhouse gasses, we must not only stop the influx – but also find a way to remove some of the CO2 already in the system to lower the levels in the tub and avoid drowning the whole house. So, we try to build machines to remove the CO2 artificially (the jury is still out on that solution), and we try to restore nature's own ability to absorb greenhouse gasses by planting more trees or letting water flow back to original wetlands.

But this is, of course, an overly simplified picture. Let's complicate the story a bit.

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Thinking in systems is like putting on a new set of glasses. Or jumping into a helicopter and seeing for the first time the whole landscape from above, with its winding waterways; discovering snowy mountains, lakes, and dams. Suddenly seeing that the water you drink downstream comes from mountains far away. Seeing the dams that block or fill the waterways, or the factory that affects the quality of the water. And seeing your own effect on that water downstream from where you let out fertilizers or pesticides from your garden or detergents from your washing machine.

While most of us have learned to think in ecosystems when it comes to nature, we more seldom realize that the same logic applies to human societies. Like other parts of nature, we humans also organize ourselves in small and big systems that interweave and become complex, interdependent and resilient structures. Systems that have worked steadily for years, run by their own self-enforcing feedback loops, and by corrective feedback loops that keep them balanced.

Think of family structures or societal structures that for centuries kept women out of any position of power. Not by choice of the individual woman. But because systems create their own behavior, and any woman entering this system would end up living more or less the same kind of life as the ones before them. There are, of course, nuances and exceptions to this rule. Some women managed to break through the rules of the system – through great personal strength and investment – but most often without bringing any general change to the system itself.

In principle, the only way to change the outcome of a system is to change the system itself.

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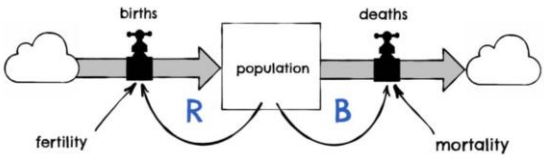
All systems have feedback loops. Children grow up to have babies, who have more babies, which leads to higher population numbers This is a Reenforcing feedback. Without the balancing effect of people dying, population growth would go wild until some other balancing feedback held it back (lack of food for instance).



Source: Meadows; 'Thinking in Systems'

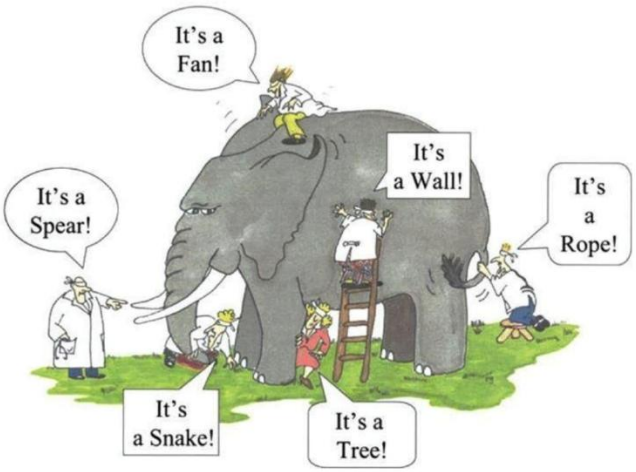
To have a growing number of people in the **population** of a country, you must have a fertility rate that is higher than the mortality rate (Balancing feedback).

In many western countries, we have more funerals than births. In combination with a growing economy, this means that we lack people in the workforce. So, we try to balance the system by inviting people to come work for us from other countries; we ask students to hurry through education or old people to keep working. Looking at how we tune the system to make it work, tells us a lot about its function and which purpose it serves.

An economic system not meant to keep a steady flow into the workforce would be built differently. One example of a system designed to balance the supply of food with the number of people is communist China where some decades ago a family was only allowed one child. A number of balancing feedback loops was installed, like forced sterilization of women, punishment for 'excess childbirths', small apartments and benefits optimized for one-child-families.

Instead of limiting the number of people, most modern societies have chosen to build systems with the purpose of 'growing the cake' to give everyone more food to eat and goods to consume. The outcome is a boom in welfare for billions. And a growing number of people in the world, who use natural resources and build human structures on land, where nature previously functioned to keep the planet breathable, well-tempered and balanced. For many years, the Earth's complex and resilient ecosystems have coped, even with a growing human population becoming more and more efficient at picking their fruits. But every ecosystem has its limits.

To do journalism on this planet with a system thinker's understanding of the world, you see that humanity itself is part of nature's systems and deeply dependent on their functions. Reporting on food security, meat-production, or fishing quotas without understanding that we are dependent on healthy soil, water, and ocean systems is like reporting about an elephant by only describing the movements of its tail.



Once you have seen the whole elephant, it can't be unseen. And once you start thinking in systems, you will report differently on the world.

Chapter 2

How Systems Change

Understanding how systems change is a mindboggling affair. Luckily, groups of scientists have spent decades studying this and worked hard at making it comprehensible for the rest of us.

Systems thinkers talk about 'leverage points', interventions in a system with the potential to bring about the aspired change to the system. Some leverage points are well known to us and we intuitively use them in our private life as well as in professional settings.

If our organizations are not efficient, we change the staff, change the structures, or speed up efficiency. We install balancing feedback by punishing bad behavior or giving bonuses for good behavior. However, knowing how major changes actually take place, none of these interventions are likely to create any fundamental systemic change.

Since systems create their own behavior, hiring new people to do the same job in the same system will most likely produce more or less the same result.

Let's have a look at what actually works – according to systems thinkers.

After studying systems change most of her life, Donella Meadows listed 12 leverage points to change a system. Number 1 is the most effective – number 12 is the least.

#12 – Changing the numbers, parameters and standards is lowest on Meadows' list. The mind-blowing thing is that most of what we usually do when we want to change a system, is fiddle with these least efficient remedies. Think of how much time leaders in all professions spend looking at numbers: Turning the knob of the bathtub up or down a bit. Or perhaps even changing the handle to make it easier to let in water at a higher speed. Meadows' point is that these exercises can help us control the system, but they will never change the system itself. We are still just managing water in a bathtub. Meadows calls this "diddling with details".

In journalism, looking at numbers take up more and more time – not only for leadership and managers – but for the journalists too, who must live up to KPI like clicks, views, downloads, and conversions. But 'diddling' with these details might not be the most efficient way to save the industry.

#11 – Changing the size of the buffers is a little more effective – but still far from system changing. This point describes the relationship between inflows and outflows and stocks. Sticking to the bathtub analogy, a very large bathtub with a small intake and outtake of water will be quite stable, compared to a tiny bathtub with large amount of water running in and out – with a great risk of running over or running dry. This is what systems thinkers call the logic of 'stocks and

flows'. In nature, we often hear of rivers flowing over or drying out, while this seldom happens to lakes. Lakes have a bigger buffer than rivers and a relatively lower flow of water coming in and out. This makes them more stable than rivers.

In the Media Business, New York Times is a big lake, not prone to run dry any time soon, even if their flow varies. In Denmark the dominant private media house is JP/Politikens Hus, owned by its own foundation, with a very large buffer to stabilize its system. The buffers make these media houses more resilient than the many news outlets that were wiped out when their flow of money dried out, because they were redirected to the tech industry.

The downside to stability is lack of flexibility, which is why legacy media have a harder time being innovative than smaller startup media.

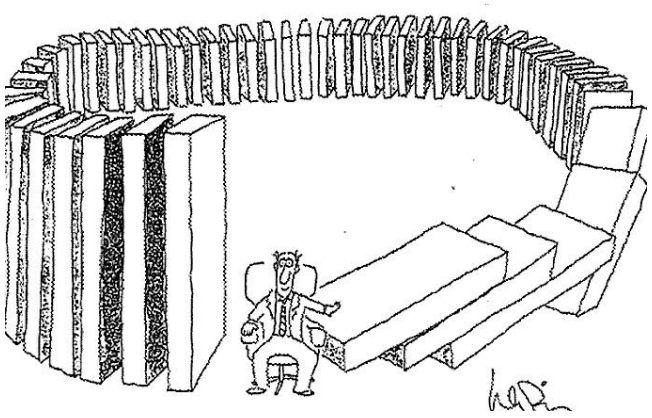
#10 – Changing the structures. Think about the countless organizational changes at your workplace that never really changed anything. Moving around tables and chairs and bosses and lines between departments and ... If this was a successful way to create change, why was there another restructuring the next year – and another the year after?

We all know the answer: Underneath the rotating executives and endless reorganizations in many media houses, employees keep performing their job more or less like before. 'Culture eats strategy for breakfast' is an old saying amongst strategy consultants. Well, so do other human systems.

If you work in an editorial room all tuned up to create clicks and spend users' time, then that is probably what you are going to end up doing. No matter the name of your current editor.

#9 Fixing delays – Delay of feedback in a system is one of the most common causes of system failure. The problems measured today in our drinking water are the results of pollutants dumped on the surface 20 years ago. And we only recently started detecting them in the water. This feedback is so delayed that once it reaches people, who can react to it, it is far too late to stop the damage.

When it is possible to avoid delays, it is a very efficient way to change system failure. But most often, things take the time they do. Children take 9 months to be born. Prices take time to adjust, even in a perfect market system. And it takes time to adapt technology to a new purpose.



In the media business, we try our best to inform ourselves by following the behavior of our users. **If these data are accurate, meaningful, complete, and without delay, they can work wonders for the business of news. But what happens if these data are not accurate, meaningful, complete, and without delay?**

Let's say media executives see conversions through social platforms fall, without knowing that Meta have changed their algorithms. For some time, journalists and editors might keep trying to please the now-gone-algorithm or waste money trying to reach users through a platform whose system has been tuned to keep their stories out of the loop.

At some point the information of the changed algorithms will reach the media leaders – but by the time they have adjusted their strategy, the algorithms have changed again. Anyone working with online media will recognize this scenario. Positive and negative feedback to a system works wonderfully – but only, if the system senses changes with little or no delay.

This is true for the media itself and for the function it plays in wider society. If we pick up important signals with a large delay, the feedback mechanisms will not be able to keep the system in balance.

Counter to our intuition, slowing down speed is often the most effective first reaction when noticing that a system is creating the wrong product or behavior. First of all, it also slows down the problematic effects of our system.

And secondly, if a delay is short, simply letting the delayed reactions catch up with the system, can fix the problem. In journalism, we do this, when vi purposely delay live-feeds to be able to cut out ethically problematic pictures, before they are aired. Or when we wait for the majority of the votes to be counted before calling out the winner on election nights.

Slowing the speed of the system all together gives us time to produce more thoughtfully.

Quite a few publishers have seen this and built their business around selling slower, calmer news. Some with great success. But to nail it, these media houses have had to do more than just slow their pace. They have moved to the very top of Donella Meadows' list of effective leverage points for systems change – and avoided getting caught down here in the game of doing more of the same.

Let's do the same and move up the list.

#8 & #7 – Changing the feedback loops.

A *balancing* feedback loop is self-*correcting*. If you are sitting in a modern building right now, you are probably enjoying the advantages of the thermostat closing the influx of hot water to the heating system when it senses the heat in the room to be too high. Or your air conditioner controlling the amount of hot air in the room, by balancing it with cold air. This balancing function is self-correcting and keeps the temperature in the system steady.

A *reinforcing* feedback loop is self-*reinforcing*. The more it works, the more it gains power to work some more. The more money you have in the bank, the more interest you earn, and the more

money you can put in the bank, earning more interest, and so on. The more babies are born, the more babies will be born…you get the drift.

Let's look at some of the self-reinforcing feedback loops of a newsroom.

In data-driven newsrooms, data might show that readers click more on stories about crime and scandal than on other stories. Editors will then prioritize these types of stories higher on the front page, which will give them even more clicks, which will nudge the newsroom to write more about these topics. Without balancing feedback, soon stories of scandal and crime will dominate the entire news site and pull resources away from all other stories.

In the short term, chasing clicks might work, but as time has shown, in the long run readers turn away and loose trust in news sites that only present them with extremely negative and depressing news. This balancing feedback from the readers is not very accurate and comes with great delays and is therefore not very effective. And of course it only works if the affected media outlet picks up the clue and doesn't just follow the numbers blindly and keeps pushing high-click-content even harder - or go to #10 and perhaps use AI to turn up the speed and the volume of the output that soured their relationship to readers in the first place (even if they couldn't help clicking on the bleeding headlines).

Once a newsroom has identified the need for a better balance, it can actively install a balancing feedback loop that ensures that the system is corrected, if it spits out too many crime stories. Like setting the thermostat or the air-conditioner to a certain temperature. An automatic barrier might be set on the front page to allow only 10 percent of the stories shown there to be crime stories.

A German media conglomerate has taken this line of thought to the next level: They have built a data driven system that ensures that the mix on the frontpage always mirrors the user-needs (as described by their own research among users). This means that only so many important-but-depressing news will make the front page. And that the editorial staff have to deliver a certain number of positive stories or news-you-can-use in your daily life. Stories needed by the readers, according to the signal picked up by the data analytics system.

These examples show how difficult it is to take into account all the side effects of adjusting a system's feedback loops:

- Of course, neither of these balancing feedbacks (capping crime-headlines on the front page or designing the front page to match user needs) take journalism's obligation to reflect the real world very seriously. A rather big problem, since it compromises the core purpose of media to reflect the world as truthfully as possible.
- Also, users' needs sometimes depend on specifics that are not built into the digital user needs data system. It might be the first sunny summer day after a long dark winter. Or it might be the morning of the first Russian soldiers entering Ukraine. There needs to be human feedback loops to adjust for these kinds of variations.
- Another problem is the delays: Users' needs may have changed, well before correction is made to the system and its outputs adjusted.
- And then the meta-problem: User-behavior is influenced by the system we place them in. The media business that measures what readers click on really only measure user behavior in this specific system and situation. This is how users click, when given these exact

possibilities, presented to them this specific way. We sometimes get so locked into our own systems that we forget that embedding users in a different media system with different enabling conditions and feedback loops might bring out very different results.

When citizens feel overwhelmed by fast news that grabs their attention by triggering their basic fight-and-flight-instincts, perhaps giving them even more of this at an even faster pace does not address the underlying problem.

#6– Changing the information flows. Changing who has or has not access to information is a leverage point that should interest all journalists immensely. This is one of the reasons why our profession is so important for society. For anyone to manage a system well and adapt it to create the preferred output, fast and accurate information about what is going on in and around the system is crucial.

Think of the information stream to Ukraine's' defense. When Elon Musk early on in the war parked Starlink's satellites over Ukraine and supplied Zelinsky and his military with instant pictures of the entire military playing field, it changed the whole game. When, after warming up to Trump and Putin, Musk turned away his satellites for a while, and the Ukrainian headquarters was suddenly dependent on old fashioned delayed intelligence gathered by people on the ground, the Ukraine army soon lost terrain.

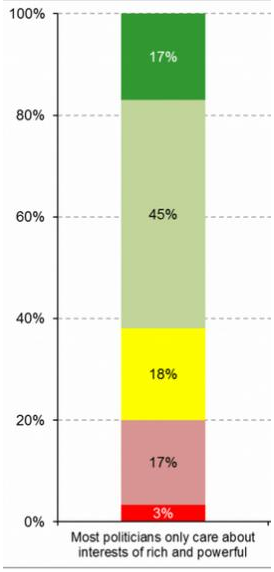
Not long ago, I talked to a Dutch scientist who had been studying the pollution of the clear water systems in a Congolese rainforest. A Chinese mining company had left a sea of poison that leaked into the forest's water system. Just a few kilometers downstream was a local village. But because the villagers were kept away from the mining site, and the Chinese stopped all information from flowing from this place, the villagers had no idea that they were serving their children poisonous water, before children started getting sick. Also, the Chinese had gotten no complaints from the locals or the authorities. Systems cannot correct themselves when information doesn't flow freely.

In a democratic society, news media make up a crucial part of the information system that gives feedback to the citizens and to politicians and others with steering power. Keeping information flowing from the scientists monitoring the shifts in the Planet's climate, biodiversity, oceans, soils and drinking water and their predictions of what lies ahead of us, is crucial to enable citizens and politicians to act wisely in the nature crisis.

As we have just learned, the most efficient leverage point would be to take the speed out of the system – slowing down climate change and depletion of nature – but if this is not within reach, it is up to media to keep information delays to a minimum.

Getting the relevant information to the right persons at the right time has always been core to journalism. But these days, unprecise or lacking information can have extraordinary consequences.

This is of course not only true when it comes to reporting on global warming. If journalists fail to report accurately about the 'temperature' of society, the reactions from politicians and others might be wrong or come too late to turn down the heat.



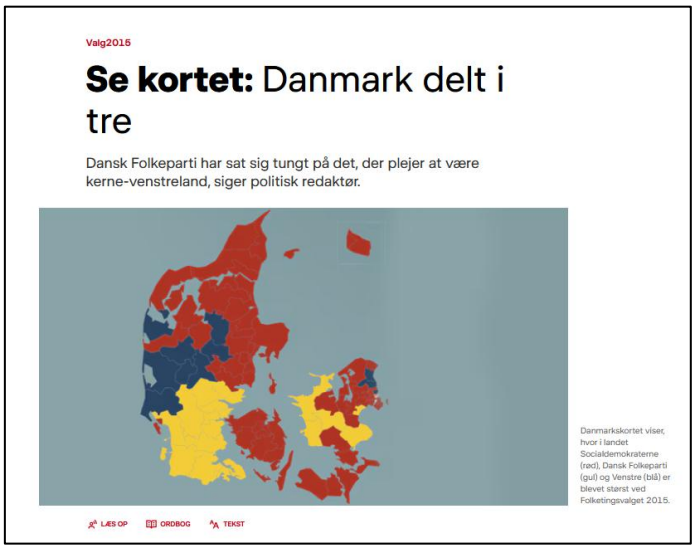
In the US, many democrats blame the media for not reporting on the widespread dissatisfaction within large groups of Americans, who feel far away from power. They argue that this missing feedback from citizens to their government is one of the things that led to the election of Donald Trump to his first term as president. In 2016, a majority of the voting population in the US said in a survey, that they believed that '*most politicians only care about the interests of the rich and the powerful*'.

Attitudes among U.S. voters towards political elites, immigration, and language dimension of American identity at time of 2016 American Presidential election (%). Source: CSES

In short, journalists who stay close to power and only have eyes for the part of society closest to themselves, risk failing to see how the system works – and that it might work less well for those furthest away from power.

This can leave marginalized groups with little hope for their future and a deep feeling of being left out and ignored by those in power, including the media. This also happened all over Europe.

In Denmark the wakeup call rang in media houses and center parties in the elections in 2015, when the populist party Dansk Folkeparty – to the surprise of most political analysts – won a historic victory in rural parts of the country. Since then, both politicians and political journalists have enhanced their focus on reaching out to 'the yellow Denmark'**, trying to establish better flows of information between those in power and those who feels furthest away from it.**The same pattern is seen in Germany, France, Italy, Greece and many other European countries.



Source: The Danish public service station DR, Oktober 2015.
. "See the map: Denmark split in three. "The yellow areas mark the parts of the country where the party DF won an unforeseen victory.

5 – **Changing the rules** is one of the more efficient leverage points on Meadow's list. Even if this is seldomly where great changes to a system begins, some of the most radical changes to society would have never happened without new rules. Think about the abolition of slavery. Women's right to vote. Or the freedom of the press.

The electric car revolution another example of **the powerful effects it has to change the rules of the game and thus the enabling conditions for change**. Surprisingly to most, electric cars are not new at all. Almost 200 years ago, in the 1830's, innovators in Hungary, Netherlands, UK and US began testing battery-powered vehicles, and a few years later Thomas Parker, a British inventor known for bringing electricity to the London Underground, created the first electric car to go into production in Wolverhampton.

In fact in 1897, the bestselling car in the US was an electric vehicle: the Pope Manufacturing Company's Columbia Motor Carriage. Expensive, slow and with a short reach. But imagine, if it had won the game, and trillions of tons of CO_2 had stayed underground, not ending up in our atmosphere. It was a sliding door moment. Even Henry Ford bought a competing company's electric car 'for his wife' and entered the race for a cheap electric car for the masses along with inventor Thomas Edison.

A Detroit Electric automobile charging in 1919 like the one Henry Ford bought for his wife.
Source: Granger Historical Picture Archive/Alamy

But with the mass production of Ford T and oil available at low prices, a new dominant transportation system was born, built to create fossil driven cars, and the new industrial kings of America had no incentives to develop competing technologies. And neither had the politicians, they supported.

For almost a century, car-manufacturers campaigned the best they could against policies that might have enabled a shift to electric vehicles. And it seemed to work. Even later, when modern, cheap, electric cars were finally introduced, sales were slow around the world.

But there was one exemption: Norway.

Already in 1990, this large, cold, mountainous, oil producing Nordic country with a small population and huge transportation distances decided to make itself a world laboratory for

systemic change of person transport. If an electric car could make it there, it could make it everywhere.

Not many would have taken the bet, that in 2024, fully electric vehicles would account for 88.9% of new cars sold in Norway. There are course many explanations for this change.

- Local influencers drove an EV, made it cool to shift, and made the **social tipping point** possible, which enabled politicians to find the courage to make the change.
- The country was rich and able to take the **early investment of establishing a new infrastructure**.
- Also, there were **no vested interests**: Norway has no car industry.

And most importantly - before any other countries - Norwegian politicians changed the laws of the transportation game. Throughout two decades of transitioning the system, Norwegian parliaments of various political observation kept agreeing to change all the rules they could think of to smooth the way for electric vehicles. Once it was easier, cheaper and more convenient to drive electric, everyone started doing it. And what made it easier, cheaper and more convenient to choose an electric car was reduced taxes, access to bus lanes, free parking and ferries and no road tolls. **A new system was created by changing the rules of the game.** Below is salist of some of the main changes to Norwegian policies concerning EVs:

1990	• Temporary (trial) exemption from import tax
1996	• Import tax exemption made permanent • Annual registration tax reduction introduced
1997	• Exemption from road tolls introduced
1999	• Identifying letters ("EL", "EK" and "EV") introduced on license plates of electric vehicles to facilitate the enforcement of EV incentives and perks. It had the added benefit of raising the visibility of these vehicles (norm appeal, word of mouth)) • Free parking in public places introduced • Free passage through toll booths introduced
2000	• Reduced company car tax introduced
2001	• VAT tax reduced from 25% to 0
2003	• Access to bus lanes tested in Oslo
2005	• Access to bus lanes launched nation-wide
2009	• Free access to road ferries introduced
2012	• Incentives extended until 2018, or when the 50,000 EV target is achieved
2015	• Incentives extended through 2017 after achieving 50,000 EV target, with a gradual reduction of incentives gradually starting in 2018 • Local authorities got the right to decide for their own regions if EVs could use bus lanes and get free parking

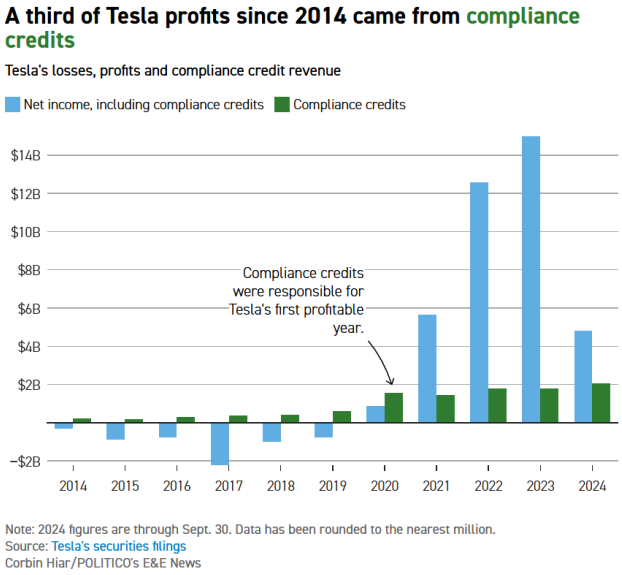
Source: Tools of change

Of course, later Chinese cars became an even bigger game changer in the world of electric transport. Enabled by strategic political decisions by the **Chinese government, who changed the rules** by simply deciding to do whatever it took to become the leading car producers of the next

century. Buying up mines with critical resources in other countries. Investing in battery technology. And churning out hundreds of thousands of cheap vehicles, until even the German consumers couldn't resist. (A teaser for leverage point #2 on list list).

Wait…. did Elon Musk and Tesla not play a part in the electrical car revolution? He did. For one thing, Tesla's low prized luxury car was what convinced some Americans and many Europeans to go electric. It became the most sold car in Denmark several years in a row and helped shift the culture among car-consumers.

But not without large **rebates on tariffs, low taxes for the consumers and heavy subsidies** by the EU, who allowed Musk to sell carbon credits from his 'zero-emission'-cars and sell them to his frustrated competitors. The fossil car companies still clung on to the old system. But in this new system, the rules had changed. European carmakers' Co2-emitting production forced them to buy carbon-credits (rights to emit Co2) at a high cost from Tesla, and by doing so, the legacy car-industry indirectly delivered a third of Tesla's profits.



Source: Politico

Elon Musk is a man who understand the power of changing the rules of the game. Even if it means, that you have to go into politics yourself for a while. But that's another story. Let us look at a force even more powerful that centralizing of power; letting it free.

#4 – Self organizing or the power to add, change or evolve a system is perhaps the biggest surprise on Meadows' list. Letting go of control, letting lose variability, diversity and experimentation. This is how innovation takes place in the media system too. Although mostly outside legacy media.

In biology this is called evolution. Meadow explains it this way:

"Self-organization means changing any part of a system lower than this on the list. Adding completely new things such as wings, brains or computers."

Donella Meadows, "Thinking in Systems".

She uses the genetic code within the DNA as an example of a rather simple system that can keep on reorganizing itself using the same pattern for replication and reorganizing. This system has continued to morph into totally new creatures for three billion years. The only constant being the 'rules for self-organization' built into the DNA-system.

All you need, for a system to evolve into something new by self-organizing, is a large variety of raw material or information from which to select possible patterns to experiment with and test and choose from. Biodiversity has been crucial for the resilience of life on earth. The same goes for evolving human systems. We need the diversity and many competing methods, mindsets and solutions to be able to change fast and flexibly to any new conditions we might run into.

An example of the powers of self-organizing from civic society is the fast-growing Danish network, De grønne Nabofællesskaber, The Green Neighborhood Commonships, where people have inspired each other to change their daily habits, following a simple recipe for organizing: 1)Ask someone you know, who also wants to act on the climate 2) Go for a walk and talk about your ideas 3) Invite other locals to join you and talk about the ideas you all have – and the ones they have - and chose an idea to start with.

Using this simple recipe, 30.000 people have organized themselves organically in a variety of groups with all sorts of people and ideas. Some fix their gardens together. Some broken things. Some eat green meals. Others share cars. Someone invented the word 'practivists', but not even that is used by all.

The original participants of the first neighbour-network have now morphed themselves into organizers and work full time to gather and document the ideas from all the self-organized groups and spread them to inspire others to self-organize. On their newly made website they have layout the recipe for self-organization that started the whole thing.

In the world of media, something similar is happening too, locally as well as globally.

The ICIJ (International Consortium for Investigative Journalists), known for its investigative stories about large data-leaks, **invented a recipe for self-organizing journalistic projects cross-boarders**, that have since been copied by many others.

GIJN – The Global Investigative Journalism Network, is another self-organized network, created by investigative journalists in their free time. They gathered in Copenhagen the first time in 2001. Since then, this network and it's global conferences has been the birthplace for numerous self-organizing groups of journalist who have worked together on the same topics across borders. Not as institutions, but as individual journalists.

The German/Danish journalist, Brigitte Alfter, is a serial organizer of several European cross-border networks, founder of the Arena for Journalism in Europe, she is spreading the recipe for self-organizing among journalists. She formalized this into a program at the University of Göteborg, teaching a new generation of journalists the rules for self-organizing with colleagues for cross-boarder collaborations, and in 2025 she published a guide to journalism schools, who want to do the same.

But much more self-organizing is going on in journalism.

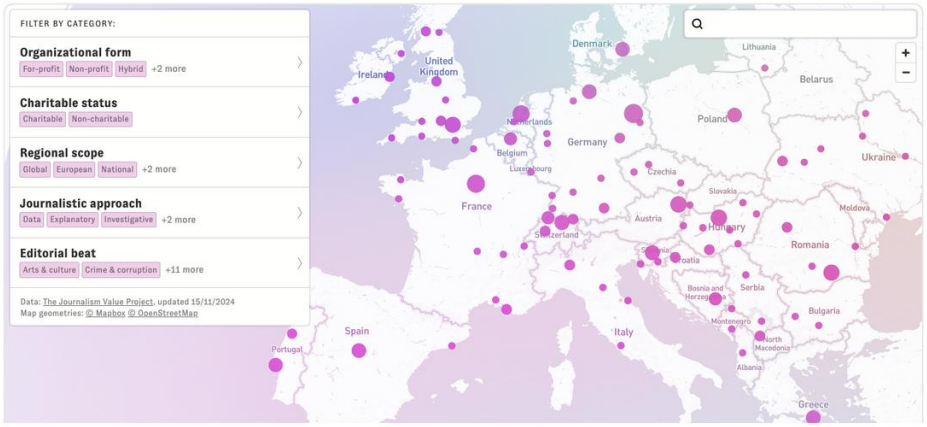
The digitalization has meant a democratization of publishing. This has created a lively underforrest of **self-organized news influencers, independent newsletter-journalists, youtubers and podcasters**. Once youtubers took off, the recipe for self-organizing was there, and many others followed and morphed the concepts into something new.

Recently, a new version is spreading even to bare news-deserts: Ultra-local digital one-(or few)-man-bands. Kun Mors, 2770avis, heromkringaarhus are three Danish examples.

The online system for self-organizing is open, flexible and diverse. You can start tomorrow at close to no cost, and even if you don't fly, no one really gets hurt. Prime conditions for diversity, Meadows say are needed to create transformative change to a system.

Once you start looking for it, the undergrowth of new journalistic online media is thicker than you might think, listening to the dooms-talk about the broken media models. Throughout the western hemisphere, community journalism is spreading like fresh sprouts in previous news deserts. Either non-profit, subscription based, supported by local adds or built on hybrid business models. The common ground for these very different newsrooms is a closeness to and sense of responsibility towards the community, they serve and a great deal of self-organization.

In 2024 The German Association of Investigative Journalists and The Journalism Value Project mapped 174 independent public interest media in Europe across 31 countries. The majority of these do investigative or explanatory journalism (see chart below), and many see themselves as representatives of civil society.



Source: The journalism value project

In the US, more than 500 independent newsrooms dedicated to quality journalism for the public good are organized in The Institute for Nonprofit News, an organization that has tripled its membership since 2017.

Source: The institute for Nonprofit News

#3 Changing the goals – Not a big surprise to anyone. If you want to go somewhere, the quickest way to get there is to know where you are going. Therefore, changing the goal that guides the system is stronger than any of the previous points on this list.

Everything else must bend for the goal. A news organization whose goal is to survive will want to conquer as big a market share as possible and preferably keep growing it to eliminate competition and insecurity about the future. One way to do so is to install subsystems with their own feedback loops.

People in one subsystem could have as their primary goal to sell as many ads as possible, wanting to tune every part the system to capture users and make them click. People in another subsystem might have a goal of reaching still larger audiences, and set agendas with the journalism to enlarge that reach, and therefore they will wanting to invest in great content.

Yet another subsystem will have a goal of selling more subscriptions, and in this department, they might want to build paywalls and place every attractive piece of information below the paywall of each article. While the adds-system people want the opposite, to make as many people as possible people read and click. But even if their functions in the system is different, they all work for the same overlaying goal: The survival of their workplace.

The leadership in this system will try to balance the different interests of the subsystems in ways that makes the big system reach its purpose: the survival of the organization.

Let's look at what could happen if we changed that purpose. If for a moment, we played the mind-game, that securing the survival of the media institutions was less important; which other goals would we set for journalism?

What if the goal of this imaginary media world was to create an enlightened, democratic conversation about our common future and how to get there - or to enhance enable human agency? Which new rules or policies would society have to introduce to make this change? What would media institutions need to look like to enable that goal? How would their functions need to change? How could they evolve and self-organize?

Let us return to the real world to look at an example from our recent history of how new goals can change the function of a media house and the way we do journalism:

In the 1950's and 60's, the goal of Danish public service radio and tv was to educate the public. In the morning, Danes would do gymnastics at home, listening to the voice of gymnastics experts from Danish public radio. At 12 o'clock, people listened to the authoritative voice of a mail speaker reading the news in the radio, informing all citizens of the world, politely quoting the government and other leaders of society. TV-series had a morale. There was a Sunday mass. In 1977 this educational media system even developed a special format called ObS! for governmental advice to the public, reminding people not to swim too far out in the sea alone, or teaching them first aid or how to bike safely in traffic.

Adhering to the dominant paradigms of the 70's, the educational public service became re-education to more leftist societal ideals. The radio had guidance for teenagers by a social worker, children's programs taught solidarity with what was then called 'the third world', and tv-series were made about women's liberation.

This felt like political propaganda to some viewers and listeners, still believing in more traditional paradigms, and they protested so loudly, that the politicians changed the system by changing its goals.

After decades of struggles, by the turn of the century, politicians decided, that the primary purpose for the Danish public service system should be to create cohesion in society.

Flow-tv was the one place all Danes could gather and feel a kind of kinship or pride in being Danes. Football matches. Tv-series. Friday-shows for the kids. Family entertainment. Even documentaries had the same goal: If many people watched it and discussed it, public service had played out its function. Many of the niche programs, that was celebrated in the old educational system was removed from the program to make space for more popular formats, with to create cohesion and 'gather Denmark'.

As a journalist in any of these systems, there is not much you could do to change them. Individuals might try to do their own thing for a while, but if it goes against the purpose of the entire system – it's a lost cause. Though some try.

In Danish public radio, the afternoon current affairs program Orientering was the last reminiscent from the old educational system. The title can be translated to 'Briefing', and the journalists on this program were experts in their fields, reading long written pieces (briefs) in the radio.

The program's strong, purpose driven core staff and its loyal listeners had managed to create their own very resilient subsystem, self-organized with a strong inner purpose. It was seemingly impossible to change. Quite a few leaders and editors did try for more than two decades. Only recently, when the program was shut down, reformatted and the entire staff replaced or merged with the staff of a morning program, did this subsystem that resisted change for so long, lay down its weapons in surrender. The new system had found a new balance without leftovers from the old.


28. april kl. 12.16

Corydon har demokratiet øverst på dagsordenen

Bjarne Corydon kalder det over for TV 2 en kæmpe opgave, han står over for, når han "ydmygt" skal træde ind ad døren til DR Byen.

Han fortæller, at han vil lave en ny strategi – og at han øverst på dagsordenen har at udvikle DR's demokratiske rolle.

- DR skal gøre noget afgørende vigtigt for, at vi har sundt demokrati i Danmark. At vi kan diskutere med hinanden respektfuld og på basis af fakta, siger han til TV 2.

Del opslag

In the latest 'public service contract' from 2024 between DR and the government, goal number one is to "**strengthen citizens' agency in a democratic society**". And as the newly appointed general director walked in the door in the spring of 2025, he impersonated this goal with the statements that: DR's role in democracy is top of his agenda, and he will make a new strategy to develop DR's democratic role (See the above box). This goal might once again change the journalistic output of DR and perhaps influence the paradigms of the wider media system.

As systems create their own behavior, changing one person in a system doesn't normally make much of a difference. But there are exceptions to that rule. If this person is a very strong leader – and this leader is willing and able to change to entire goal of the organization, it's a whole different story.

Those rare **leaders who are able to change the purpose of a system, can have enormous leverage**. Examples of business leaders who have managed to totally change the purpose of a company is Henrik Poulsen, former CEO of the largest Danish energy company that changed name from Dong to Ørsted and went from oil to wind over a course of a few years. Or the former CEO of Novo, Mads Øvlisen, who managed to implement triple bottom lines in the medical business long before this was common.

Given the right people at the right time under the right circumstances, strong, purpose-driven leaders can also have the leverage to make deep changes to the wider societal system.

Reagan is an example of such a leader. Most of the 19th century American presidents would say: 'Ask not what your government can do for you – ask what you can do for your government.' Ronald Reagan flipped this upside down. Throughout his presidency he repeated again and again that government should not ask people for help; government should get off people's backs. Reagan managed to change the core purpose of the system and invented the new paradigm that A Big State is Bad for Society. This has formed American politics ever since.

When Donald Trump introduced the new goal of 'America First', he too changed the purpose of American politics. This time in just two words. Every US-government before him had seen themselves as guardians of international law and order. A policeman or parent of the free world. Generously spreading democracy and free market economy across the globe.

But, by putting 'America first', discarding the entire system of international law and international economic system of free trade and globalization as well as climate agreements, Trump changed the purpose of the system. And thereby he forced the functions, the rules, the feedback loops and everything lower on this list of leverage points to bend to this new purpose.

The old rules does not apply anymore, and this has potential to change systems not only in the US, but across the globe.

No wonder Meadows and other systems thinkers regard the power to decide system's purpose as an extremely powerful leverage point for transformation.

Source: Official White House Photo by Shealah Craighead

#2 Paradigmes – just as you think, we can't get higher, we move up one more level. Changing paradigms has the potential to change the goals, purpose and functions of many systems at the same time. And thus change all the points below on this list.

Paradigms are the beliefs that are most often unstated, because it is not necessary to state them. Everybody knows them. Meadows lists some of the paradigmatic assumptions of our current culture:

- Evolution stopped with the emergence of Homo Sapiens
- One can own land
- Growth is good
- Nature is a stock of resources to be converted to humans' purpose.

Paradigms that all feel so natural to us, but very unnatural to people from other cultures with other paradigms.

In short, **paradigms are the sources of systems.** They might just be ideas held collectively by many people at one time, but they manifest themselves physically all the time. As Meadows observes, the **Egyptians built pyramids because they believed in the afterlife, while we build skyscrapers, because we believe in the high value of land in a city.**

For the individual person, a paradigm can change in a split second, like when lifting a veil, you can suddenly see the world in a new way that can't be unseen. Think of the last time you felt you 'saw' something in an entirely new light.

Changing paradigms in a bigger system – like society – is a much slower process, and new paradigms are what systems fight most fiercely.

We humans really don't like it, when our strong beliefs about the world – our perceived reality - is challenged. When beliefs are commonly accepted, we call the paradigms, and we group up to protect them from any harm.

Even though scientists dating back to the ancient Greeks have told us the Earth was round, the paradigm of the flat Earth took centuries to change. Giordano Bruno was burned at the stake for challenging the paradigm that put the Earth at the centre of the Universe. Telling his students that the Earth revolved around the Sun was regarded so dangerous that he had to die for this sin.

However, when paradigms do shift, it has immense transformational power.

One example is the paradigm of personal transportation.

Going back to the world of cars, in 1939 world leaders attending the World Fair was blown back by 'Futurama', the futuristic visions presented by the car industry. Not surprisingly, the car was centre-piece of this future vision. Motorways (cleverly named 'freeways') would give Americans new freedom of movement. Any individual could take their own car and move at high speed on straight lines of asphalt throughout the country. The highways would take working men straight into the big cities and out again to the suburbs, where their families would reside.

Public transport was not part of this dream. No one had hired the best PR-guys in the world to make the Futurama of public transport. And no journalist asked any politician about their visions for liveable cities with pedestrians or bicycles. To live modern attractive lives was not to walk free from heavy traffic or breath fresh air, but to drive your car down a newly built free-way.

This paradigm of cars = freedom and highways=civilization formed the urbanization of America and the policies that set the rules for the century.

Journalistic systems have always been ruled by strong paradigms. The most famous and the most long-lived is the understanding of media as 'the Fourth Estate' – an independent and unbiased watchdog with great powers to control those in power on behalf of the public. This paradigm was supposedly nailed by Edmund Burke in a lecture in1940. He was not too enthusiastic about these powers given to journalists, but by the turn of the 19th century, it had become a paradigmatic perception, that this was the natural role and inherent powers of the press.

"Burke said there were Three Estates in Parliament; but, in the Reporters' Gallery yonder, there sat a Fourth Estate more important far than they all. It is not a figure of speech, or a witty saying; it is a literal fact … Printing … is equivalent to Democracy … Whoever can speak, speaking now to the whole nation, becomes a power, a branch of government, with inalienable weight in law-making, in all acts of authority."

Thomas Carlyle, On Heroes, Hero Worship, and the Heroic in History (1841)

How has this shaped the Media? For one thing, the paradigm of the Fouth Estate has kept money rolling to investigating corners of news rooms, even through the worst rounds of cutbacks. Because this particular kind of journalism is seen as the incarnation of the Fourth Estate; the raison d'être of the whole system.

This is the power, we believe in, when becoming journalists or editors – or when buying a paper. This is also the paradigm that makes politicians or powerful businessmen believe that there is

great power in owning or controlling the press. And over time, thousands of journalists have dreamt of taking down a president or someone else in power, to live up to this paradigmatic picture of the ideal for the profession.

A new technology can breed new paradigms: With the digitalization of media came of a strong-lived paradigm that people can only read short pieces online. For at least a decade, all journalists adhered to this generalized truth and rigorously keeps the number of words down to a minimum when publishing online.

This is not a paradigm that dies out easily. **Fast, short and often is still the ruling paradigm** in most digital newsrooms, where editors refuse to believe that any readers would want to read more than three or four paragraphs online. Undisturbed by the fact that, for a decade, entire successful media businesses have been built following **a competing paradigm: People want fewer, but better stories with more depth**.

Believers in this paradigm have built their own system that produce long articles or sound pieces online - using a different kind of journalism inspired by oral storytelling rather than the classic news paradigm with short and precise, informative language formed by the technology of the telegraph. **The function of this system is not to create more entities, but to create more engagement.** A system born out of a new paradigm, a new belief system that creates new goals like community journalism and engagement journalism.

Also in the world of sound-journalism, independent podcasters have challenged the paradigm of 'short is good' with immensely popular hour-long podcasts.

Other paradigms of the press could be:

- Being first with news is crucial
- Stories must be new to have value
- A story without a conflict is boring
- People don't want to hear about stuff that works.
- There is such a thing as neutral journalism

Whoever manages to introduce new paradigms also has the potential power to give birth to new systems with new functions, feedback loops and outcomes. Systems that create their own behaviours – almost independently from the people in them.

You should think that changing the mother of all systems would be at the very top of the systems thinkers list. But there is one more step on this magic ladder.

Source:Generated with the help of ChatGPT-40

#1 Transcending paradigms – Imagine that you are able to identify all the paradigms, that give people purpose and drive systems in this world. That you recognize that there are many parallel, competing and sometimes opposing thought systems in this world – and that they could all hold some kind of truth. Realizing that also your own beliefs may be questionable.

Now imagine, that you manage to grasp all the competing paradigms and hover over them without falling for any of them or regarding one as a 'truth'. Without all the built-in biases from your own belief system. Imagine that you are able to realize that even your deepest beliefs may be just as true or untrue as a myriad of other – maybe even contradicting – beliefs.

It sounds impossible and quite disturbing.

But, remembering that many of the dominating discourses that people 50 years ago considered commonsense, are now outcompeted by others, it makes sense to strive to keep our minds open to emerging or competing paradigms in our own time of age.

By reaching for this impossible state of mind, we can strive for a journalism that goes beyond mirroring the dominating narratives and paradigms of society – and take on the much harder job of challenging them.

We can do this by listening curiously to rebel thinkers, disruptors, and innovators without letting the systems, they challenge, dictate what or who can be taken seriously.

We can also be aware of our own beliefs and invite others to challenge them through our journalism. And we can be honest, with ourselves and others, about the paradigms that we cannot divorce ourselves from.

While it is probably not possible to hover weightlessly above all paradigmatic thinking - having this as an ideal to strive for may still be useful. To many journalists, it might even feel quite familiar, since one could argue that **this is the system thinker's equivalent to the journalistic ideal of the 'neutral' or 'naked' journalist:** The ideal of being able to report objectively, without the blinding effects of our own beliefs and built-in biases. Many of us believe, that this is still something to strive for – while knowing that it is impossible to ever get there.

A belief that is….in itself another paradigm, and here you go again….

No wonder some people find it easier simply to conclude that being objective is not possible, and that the idea of neutral journalism is nonsensical. But to a systems thinker, letting go of all paradigms is a liberating – even empowering - thought. In Meadow's words:

"People who cling to paradigms (which means just about all of us) take one look at the spacious possibility that everything they think is guaranteed to be nonsense and rapidly pedal back.

Surely there is no power, no control, no understanding, not even a reason for being, much less acting, embodied in the notion that there is no certainty in *any* worldview.

But in fact, anyone who have managed to entertain that idea for a moment or for a lifetime, has found it to be the basis for radical empowerment,"

Donella Meadows, Thinking in Systems.

Questioning any and every paradigm will imply questioning some of our own core beliefs. One of those is the notion that, as a journalist, you are able to divorce yourself completely from your own belief system when at work (see the above…).

Perhaps we have to add some nuance to this ideal to be true to ourselves as well as to the people we do journalism for. The Dalai Lama might be an exception. But the rest of us have paradigms we cannot – and do not want to - divorce ourselves from. To me, democracy is one of them. Freedom of the press another.

I can do my best to perform my journalism curiously and critically, but I cannot claim to report entirely neutrally on a battle between autocracy and democracy, propaganda vs. free press or climate literacy vs. disinformation about climate change. I also acknowledge the complexity and severity of the nature crisis. I believe that my society needs to find ways to build a sustainable future, where people can exercise all the above rights within the boundaries of the planet and without pushing the climate out of balance. *How* this is done is an open question, that I can strive to report on neutrally - but *that* it must be done, is not. Just like I believe in paradigms like free speech and human rights. These are parts of my belief system that I cannot divorce myself from. Claiming that I can, would not be honest to myself or to the society I work for as a journalist.

To conclude: To be aware of the paradigms we as journalists cannot divorce ourselves from might help us communicate more honestly about them and build trust in our journalism.

Being transparent about and critical towards *our own* belief systems, while being curious to *others'*, may bring us closer to the ideals of 'neutral' journalism.

As a bonus, being aware of the thought systems that drive *everybody's* thinking, will open the door to important stories in all areas of journalism. It will prone us to ask 'why', rather than staying on the surface level of 'what' – and help us stay curious to thoughts and ideas, that challenge the dominating paradigms of our own time.

*

Ending on this high note, I feel we better get back to something more earthly and practical: How to use these thinking skills in our daily journalistic practices.

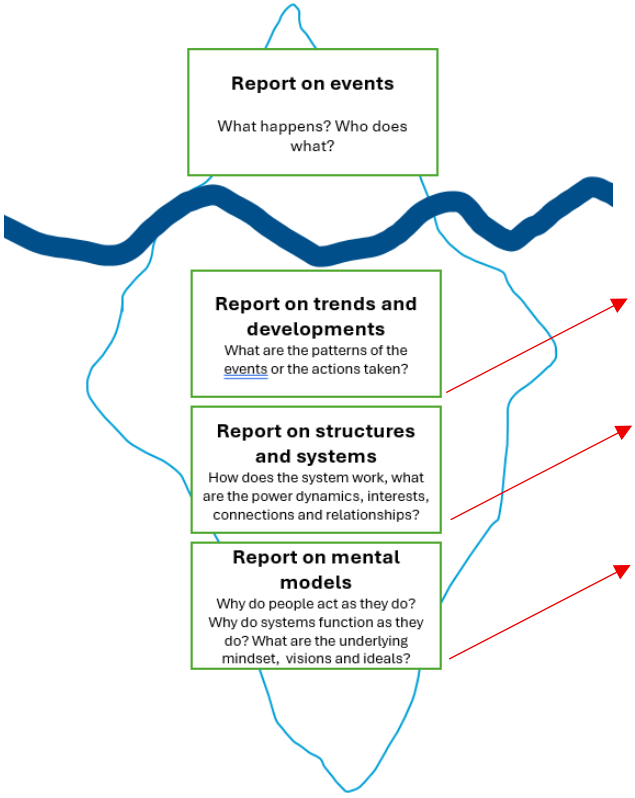
Chapter 3

How to apply systems thinking in your journalism

There are plenty of tools available to be used by anyone (including journalists) who want to borrow from systems thinkers. But I have not found any that specifically cater to journalists.

Later in this chapter (p.34) I have listed seven simple tricks to practice systems-aware journalism, particularly when working with stories about wicked problems. And below, I have applied the simple systemic model of the iceberg to journalism.

The iceberg-model. As journalists we report on all layers of the iceberg. But especially when we are in a hurry, we tend to stay with the actions, statements and events that is visible to us – the top of the iceberg. Looking below the surface is of course no new discipline. But keeping the iceberg in mind is a way to do it more often.



Thinking in systems helps you go below the surface in your journalism to **look for patterns** of events, trends or developments over time.

This is an invitation to investigate the **structures and the systems** at play as well as the power dynamics and the relationships between interests or different systems.

And to dig out the **values** that drive people's actions. The **mental models** that make one system, trends or action seem more logical than another. When media challenge these mental models, new and interesting questions arise and **transformative stories are made possible**.

The iceberg is a simple way to remind us to look for relevant patters, power dynamics, systemic issues and mental models and dive into them, investigate them – and challenge them – when relevant.

One more example from the world of transportation: When a train crashes, the first report home must of course be on the event. What, where, who, how many and so on. But to learn anything from the tragedy of a train crash as a society, we need to move down to the next layers:

- How often do trains like this crash? What are the conditions of the tracks on this line? Are there other **patterns** in the statistics?
- Are there **systemic issues** at play? If these tracks have needed repairs for years, what are the systemic reasons why it didn't happen? Who gains from repairing them or not getting them fixed? What would enable a solution? Who needs to work together to fix the problem? What holds them back?
- Is there a **mindset** around public transport that could explain these system errors? Did politicians stop investing in trains, because they are so convinced that very soon, we will all be driving electric self-driving vehicles anyway? Is there a dominant discourse that 'investing in trains and tracks is a waste of money'? If so, could we challenge it journalistically? Can we investigate curiously and critically, if investing in trains and tracks really IS a waste of money? What do other countries do? Who might have other perspectives that challenge our own discourses?

It might not be necessary to take the elevator down all four levels on each traffic accident. But when you do, often stories start to feel more relevant and important - and potentially worth more for media-users and society than stories that skate the top of the iceberg.

How Wild Is Your Story?

Some of the world's most important stories revolve around problems so complex that they are difficult to tackle without being conscious of all four levels of the iceberg. These stories need special attention and care, and another mindset than the one we use in our daily work with news about more trivial problems. Political scientists call them wicked problems.

The nature crisis is the mother of all wicket problems. But other areas have their own: Examples of wicket stories in the social sector could be mental health problems, homelessness, addictions, domestic violence or inequality in healthcare. **What these issues have in common is that they cannot be solved without changing the system that causes them to repeat forever.**

Mental illness amongst youngsters is not solved by simply allocating more money, passing a new law or appointing a new health minister or chief physicians of the mental hospital. And the nature crisis is not solved by investing one more billion in green energy. In short, these are problems that can't be fixed with quick or simple solutions. They need collaboration between many actors who are willing to address the root causes of the problem and work with them for years.

In Denmark, the political scientist, author and journalist, Sigge Vinther, has translated wicked prolbems to 'vilde prolbemer' – wild problems and thinktank (INVI - Institut for Vilde Ideer) with the sole purpose of developing a new language, new ideas and new policies to tackle these problems. Acknowledging that when working with policy, wicket problems need another toolbox that simple problems.

I believe this applies to journalism too.

If we treat wicket stories like classic news stories, we risk simplifying and distorting them - and ultimately dumbing down our viewers, listeners, and readers.

New journalistic tools are needed if our goal is to create informed and empowered citizens who can participate meaningfully in discussions and a nuanced public conversation about society's wicket problems.

But how do you know, if you are dealing with a wild problem?

If a problem seems to resist all attempts to solve it, it is probably systemic, meaning that it is the result of a system that creates its own behavior, repeating the same output over and over again. To create another output, the system has to be repurposed to address this problem.

As a journalist, you're especially well equipped to research, map out the relevant stakeholders and experts, see connections and think critically about interests, motivations and underlying agendas.

On top of these core journalistic skills, you will have to accept that complex problems are … complex and therefore cannot be solved with a quick fix. In fact, some problems cannot be fixed at all, only mitigated (like the rising sea levels or loneliness).

Dealing with wicket problems, you will need to be curious about the systemic causes of setbacks and recognize that smaller progress can be a success, if it is steppingstones toward a bigger goal or solution. This goes for wicket social problems like inequality in health or homelessness as well as wicket problems with humans' interaction with nature, like climate change.

Start by gaining an understanding of the system, this problem is embedded in.

Perhaps you can look back in time to see in which context, and for which purpose this system was built. **Which problems was it designed to cure**, and which positive outcomes has it created, besides for the unwanted side-effects you are now focused on.

By changing the purpose and the function of the system, this problem might be solved or mitigated. And as systems thinkers will warn you: most likely, new problems will arise. This is how humanity has reorganized forever.

Investigating wickets problems means investigating possible systems changes. This will not only challenge you as a journalist. It will also challenge powerful people and institutions, who are vested in the current system.

It is your job to be both curious and critical to new ideas, but it is not journalists' job to help powerful interests shut down innovators and disrupters with new ideas or alternative paradigms. Instead, stay curious. And be real about the power interests at play. Identify and investigate how they affect the problems and their possible solutions, and what they might loose or gain from a proposed change to the system.

Remember that all systems resist change. And that throughout history, many human-made systems, that seemed natural or unchangeable at the time, have changed, nonetheless.

For better and for worse.

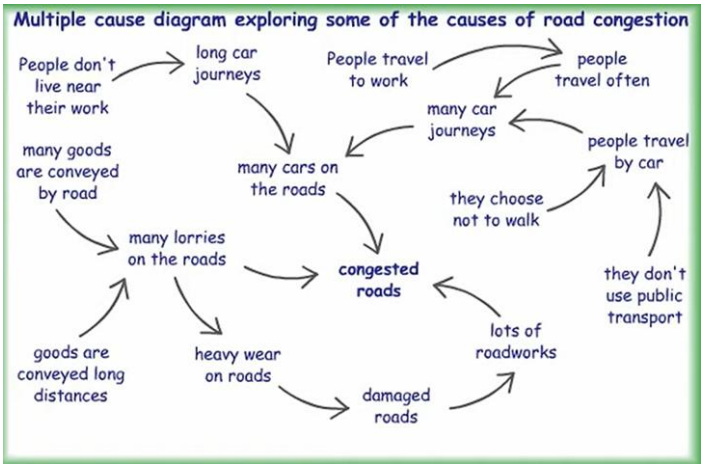
Below, I have listed seven pieces of advice - inspired by systems thinking - specifically addressed to journalists who work with wicket stories.

Seven ways to tame a wicket story

If a problem seems to resist all attempts to solve it, it is probably systemic, meaning that it is the result of a system that creates its own behavior, repeating the same output over and over again. Working constructively as journalists with this kind of 'wicket' problems, we have to identify the system, this problem is a product of.

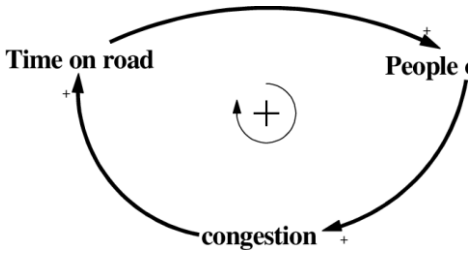
1. Identify the drivers

Map out the underlying mechanisms and causal relationships driving the problem. Speak with experts and stakeholders. Use their knowledge to map the problem.



Example of systems mapping congestion problems. Source: The Open University

Which feedback loops have a balancing effect? Which feedback loops reinforce the problem?



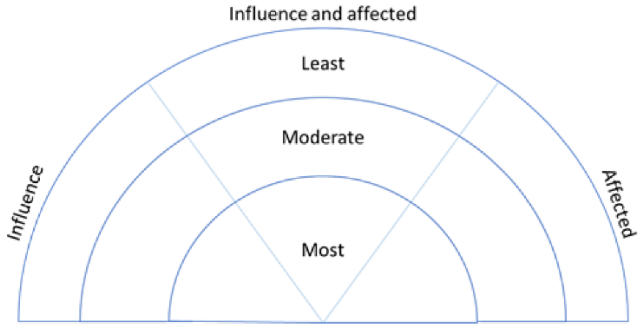
2. Embrace the complexity

Include many perspectives and avoid adopting someone else's tunnel vision or paradigms including your own. Which belief systems are at play? Stay flexible and open to the idea that multiple seemingly contradictory viewpoints can be true at the same time. If you have time invite 5-10 sources for a (online) roundtable conversation on the issue and listen.

What are the interrelated systems at play? What problems were they designed to solve? How does their purpose affect the systems, their function and the behavior they create?

3. Understand stakeholder interests & power dynamics

Identify the stakeholders and their interests. What are their goals? Remember that change in a system shifts power dynamics and the rules of the game. Who is motivated to support change? What vested interests will be against? Who is most affected? Who have power to influence the process? How do these factors affect the possible solutions?



Source: MDPI - A Multi-Methodology Approach to Creating a Causal Loop Diagram

Ask all sides how they (will) work together to address the root causes? How will they change the system, so it doesn't keep reproducing the same problem? Is this what they are doing? Why not?

4. Forget the Strongman Narrative

Avoid assigning responsibility to a single person. Complex problems can't be solved in isolation from the systems they are embedded in. Responsibility doesn't rest with one or a few people - it requires cooperation among many actors to change the conditions that create the problem. **Hold power responsible to gather the right forces, do the necessary coordination and lead the way.** Even a minster for social affairs cannot fix the problem of homelessness by herself.

5. Expose Symbolic Politics

Be critical of politicians or other leaders who claim to solve wicket problems by removing symptoms. Complex problems return, even if the symptoms are treated.

In Katmandu the mayor proudly solved the problem with homeless people in the city center by tearing down the shags, landless people slept in by the river. There were no more homeless people to be seen downtown. But the core problem of homelessness had of course only become worse.

6. Stay focused on the long-term goals

Ask about long-term goals. Short-term and long-term goals require very different tools. If the government wants to give money to municipalities to tackle homelessness, ask whether the money is for more soup and shelter beds - or for solving the reasons for homelessness. There is nothing wrong with feeding someone who is hungry today. But to address

the systemic problem, society need a plan for how to avoid reproducing the problem again and again. Who can make this plan? Together with whom? Over how long time? Where will they start?

7. Allow Time and Follow Up

- Keep the time perspective in mind when telling your story. Complex systemic changes take time - sometimes years, or even decades. Make this clear in your interviews and storytelling. Ask about the process and interim deadlines, and make sure to follow up! When covering wicket problems, timelines can help you – and your audience – acknowledge progress and notice setbacks while keeping an eye on the bigger goal.

THE BIGGEST SYSTEM OF THEM ALL

Chapter 4

Understanding the Earth System

The Earth system is a cluster of interconnected sub systems, that work under the oath of musketeers: 'One for all, and all for one!' Not one of these sub systems can function without the others. Yet, one of these systems is getting all the fame these years - the climate system. But what climate scientists have been trying to tell us for some time now is that the climate is just one of many sub systems on a planet under increasing pressure from human activity.

It is all the interconnected nature systems that have been kicked out of balance. Not just the climate. Understanding this is crucial to finding solutions that will actually get us back in balance with the natural systems, we depend on. For this reason, in this report, I have used the term 'nature crisis' to describe the totality of the planetary crisis, that the climate crisis is part of.

One example of ow systems are connected to each other is the collapse of marine systems in coastal areas. The map below shows the areas (red color) of the ocean suffering from hypoxia, a medical term used to describe body parts deprived of oxygen. When the ocean can't breathe in these areas, they die out locally like a finger with no blood and oxygen.

In Denmark this became common knowledge only when the ecosystem in our inlets and coastal waters 'suddenly' collapsed and emptied of fish and other life. Even though scientists had been warning us for years that our waters were under pressure and approached collapse, we had a hard time grasping that even the vast ocean's ecosystem has its limits. Let's have a look at how this affects the other subsystems of the Earth System.

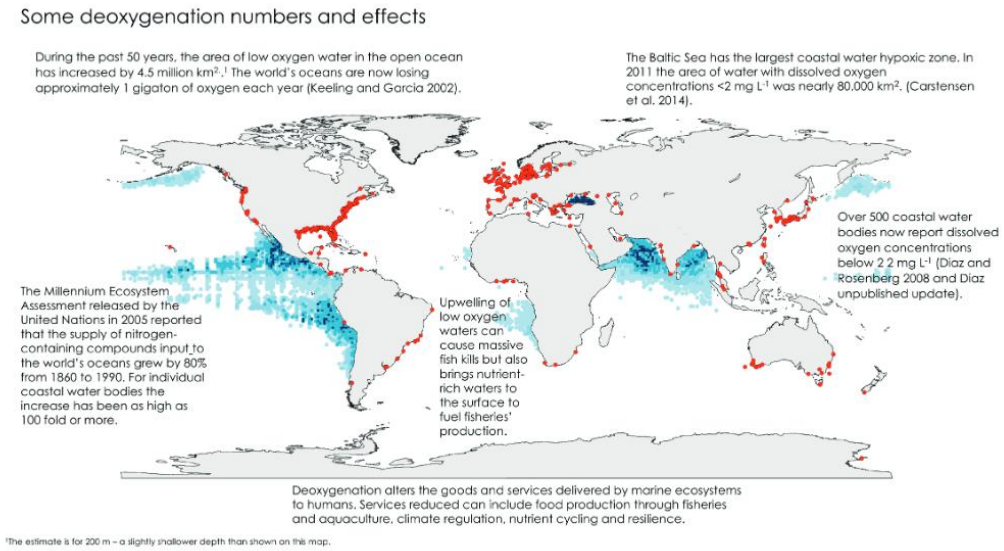
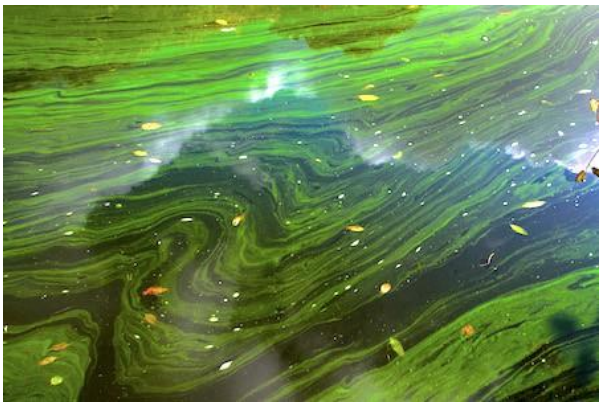


Figure 1. OMZs (blue) and areas with coastal hypoxia (red) in the world's ocean (adapted after Isensee et al., 2015; Breitburg et al., 2018; including oxygen effects from Keeling and Garcia, 2002; Diaz and Rosenberg, 2008; Carstensen et al., 2014).

Source: Scripps.ucsd.edu

The thing is, that we do not *only* depend on the ocean for fish. In fact, without the oceans functioning, we would not be able to breathe on this planet.

2,5 billion years ago, the cyanobacteria in the oceans started producing so much oxygen, that it evaporated into the air and lifted the share of oxygen in our atmosphere. Climate scientists call it The Great Oxygenation Event. Without this happening, we would not have had enough CO_2 in our atmosphere for humans to evolve and breathe on this planet. These bacteria still exist today. You probably know them as 'blue-green algae' (even if they are actually not algae).



But the story doesn't end here. Supplying us with fish to eat and air to breathe are not the only 'services' of the oceans. The blue oceans that cover most of Earth are in fact also the planet's greatest carbon sink, and the oceans also absorb heat and energy trapped in the Earth's system.

Since the Industrial Revolution, oceans have absorbed 30% of carbon dioxide emissions from human activities, significantly slowing the pace of climate change - working as an important balancing feedback loop to the global heating.

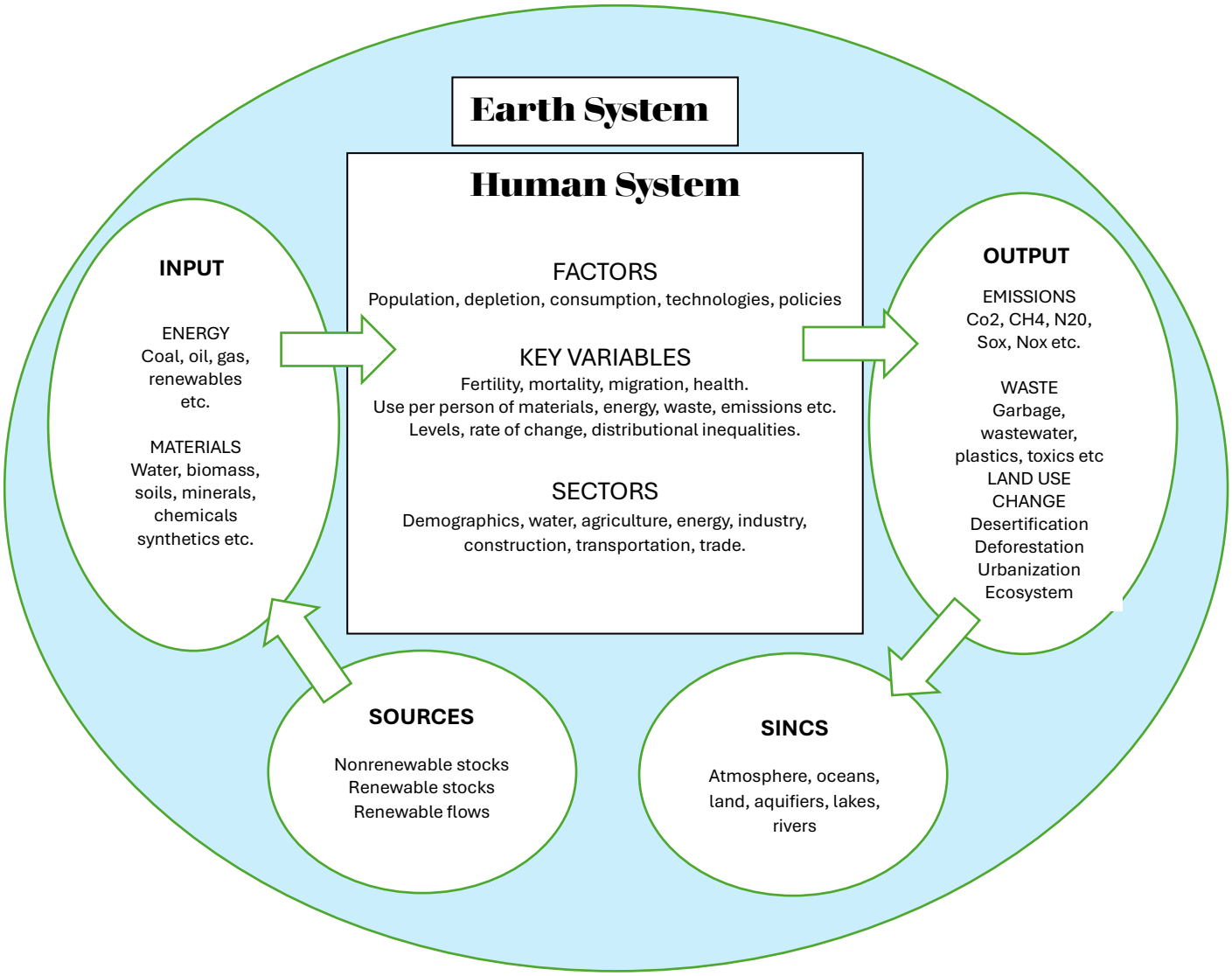
However, this ability of the oceans to swallow our CO_2 now seems to be weakened by climate change and pollution. On the this website about climate change, UN explains just how interconnected the ocean system is to the entire Earth systems, and how climate change is weakening its ability to sequester CO_2.

> The ocean generates 50 percent of the oxygen we need, absorbs 30 percent of all carbon dioxide emissions and captures 90 percent of the excess heat generated by these emissions. It is not just 'the lungs of the planet' but also its largest 'carbon sink' – a vital buffer against the impacts of climate change.
>
> The ocean is central to reducing global greenhouse gas emissions and stabilizing the Earth's climate.
>
> However, increasing greenhouse gas emissions have affected the health of the ocean – warming and acidifying seawater – causing detrimental changes to life under water and on land, and reducing the ocean's ability to absorb carbon dioxide and safeguard life on the planet.

What climate scientists and the UN try so hard to make us see, is that our planet has entered a transition phase that will – sooner or later - result in a new balance that aligns the human systems with those of the natural world.

How long this will take, how messy it will be, and how humans will cope in this process, will be determined by the way we humans organize ourselves going forward and by the natural forces at play.

The results of the clash between human's systems and nature's systems are visible all over the world. Every year insects, birds and other wildlife disappear along with the ecosystems they once inhabited. **These ecosystems all perform indispensable services - like cleaning our water, cooling the air, sequestering co2 or restoring the soil. Functions that are crucial to humans' ability to breathe, drink, eat and stay alive on this planet.**



The Earth Systems and the human system are intertwined.
Without the services or functions of a weel-functioning Earth system, the human system cannot function.
We rely on nature to clean our water and atmosphere to make the planet livable.
Source: Inspired by Annual Review Earth and Planetary Sciences. Data from Motesharrei et al. (2016)

One mind-blowing learning of the climate crisis is that even though one single human is such a small force in this complex planetary system, we now know, that collectively, humanity has immense powers to change nature.

We have managed to affect the key systems that enable life on Earth, and we have done so by organizing ourselves in systems that create their own behavior or output, no matter which person or country you apply them to.

Knowing this, the most interesting journalistic story of our age must be: How can humans change our own systems, so that they work to restore the balance of the Earth systems?

Answering this question should be the core of society's democratic conversation. And therefor also center focus of journalism. If we believe that media is here to report on all ends of that elephant and to help our democracies make more informed decisions, here is the biggest elephant of them all.

This is not a job for one reporter. It's a job that needs engagement from the entire media system.

LET'S GET PRACTICAL

Chapter 5

Six Jobs to be done when reporting on the Planetary Crisis

To report on wicked problems like climate change, biodiversity loss or marine ecosystem breakdown, we must engage with all the well-known tools from fact-based, explanatory, investigative journalism and constructive journalism.

But on top of this, we must take into account, that we are reporting on a slow-evolving, global natural disaster that demands unprecedented collaboration, systemic action and behavioral change from the entire humanity, and coordination by leaders across countries on the structural level.

This means that there are new jobs to be done. For media to play a constructive role in the nature crisis and leave our audiences enlightened and empowered we must:

Six Jobs to be done

1. **Lift journalists' literacy on the nature-crisis**
2. **Lift citizens' (and politicians') literacy on the nature crisis**
3. **Report on the future**
4. **Report on people who act**
5. **Enhance self-efficacy**
6. **Be realistic about the world and humanity**

1 Lift journalists' literacy on the nature-crisis

Most importantly, journalists, editors and executives in media institutions should have basic knowledge of the Earth Systems and the consequences of the nature crisis. As a minimum, all journalists should know these 12 basic facts:

→ **All human activity is dependent on well-functioning nature systems** and their services.

→ **The basic conditions for life on Earth are already rapidly changing**, and this has consequences for all aspects of our lives.

→ **Climate is changing so fast that local ecosystems are not able to adjust** to the new conditions. This is different from climate changes in the Planet's past, when temperatures changed over thousands or even millions of years, and nature had time to evolve and adapt.

→ **Some changes are irreversible, but not all.** Scientists tell us that regeneration of oceans, soil and ecosystems is both possible and necessary. Restoring nature helps crucial feedback loops get back in place and the entire Earth Systems to get back in balance.

→ 2024 global temperatures crossed the boundary set by the global community in the Paris Agreement. Since his was the first year the Planet experienced global warming of 1,5 degrees, and the agreement calculates mean temperatures across 20-year averages, the agreement is not yet formally breached. But unfortunately, we are not on the right track.

According to IPCC, with the current emissions, the planet is heading for +3,6 degrees average global temperature rise within this century**.** Any journalists reporting on any serious media in 2025 must know what this scenario means to the planet, their local community and their specific beat.

In short humans are tipping the natural systems we rely on for our living. In each sector, there are experts who can tell you about the specific consequences for your journalistic niche. Below are some of the more general resources:

IPCC - The global reports from the International Panel for Climate Change (IPCC) are all gathered in this LINK. The summaries and visualizations made for politicians are easy to read for journalists too. Browse through them to find the specifics for the area you cover.

DMI – The Danish Meteorological Institute – has built an interactive Climate Atlas showing how the conditions will change in Denmark with different temperatures.

PIK – Potsdam Institute for Climate Impact Research are some of the world's best communicators on this topic. Take a look at their site. Or search Youtube for Johan Rockström's explainer videos and talks.

SDU - University of Southern Denmark has visualized how water will affect this country when rising sea levels and heavier rainfalls changes living conditions, later this century.

The Economist - A short explainer made by the Economist in 2021 gives a quick peak into the future of +3 degrees and why world leaders have agreed not to go there. It needs an update – but will still give you a general idea of what a hotter world looks like.

→ Scientists have mapped out alternative scenarios to business as usual. While some damage cannot be undone and will make life on Earth harder for many decades, there are alternative routes going forward. Which ones we follow will be decisive for our future.

The Paris Agreement is built on scenarios from IPCC. These are compromises that have been politically negotiated and accepted by all the participating countries. This means that systemic changes are mostly ruled out of these scenarios.

Therefor it is relevant for journalists to also report on scenarios made by scientists in settings detached from the political system.

One example is the Earth4all-project organized by a group of scientists working with huge data models like the ones, governments use to predict future budgets. These scenarios are detailed attempts to describe possible societal reforms that could keep humanity fed and safe within the planetary boundaries.

There are other models at play, all of which will look different, depending on which future vision lays behind the model. The purpose of a system decides the functions and results. Read: It very quickly gets political. There is no such thing as a 'neutral' model.

→ **It's not just about the climate:** In addition to rising temperatures, scientists agree that there is severe pressure on biodiversity, soil- and water-systems as result of human land use, pollution and unsustainable extraction of resources.

→ **None of these problems can be seen or solved in isolation.** The Earth system relies on a number of interdependent subsystems that balance each other through reinforcing and balancing feedback loops.

This is why, burning coal in China or cutting down forests in Brazil can melt the ice in Greenland, which can create floods in Bangladesh, slowdown the exchange of hot and cold waters in the Atlantic Ocean, which can change the conditions for farming in Denmark etc. etc.

Think of it as a game of the Tumbling Tower.

You can only take out so many sticks (or species), before the whole ecosystem collapses.

And you can only take out so many ecosystems and their functions, before the entire system collapses and turns into something completely different. A pile of disorderly sticks.

Or Hothouse Earth.

→ **Scientists have drawn up 9 crucial planetary boundaries (see figure on page 50)** showing us the limits to how much pressure we can put on Earth's systems, before they stop functioning and provide us with the services we need – like, food, water and a climate fit for humans.

The pollution of the atmosphere with CO_2 is only one out of six planetary boundaries crossed. Therefore, staying within what scientists call the 'safe operating space for life as we know it', means dealing with all the systems that are currently under pressure.

→ **These boundaries are physical and very concrete**.

We have seen how coastal waters die out and no longer provide us with fish. This is an example of a *renewable resource* that has been overexploited.

When it comes to *non-renewable resources*, humans will sooner or later be left with no choice but to build and produce with reused materials. On a finite planet, we cannot do endless mining.

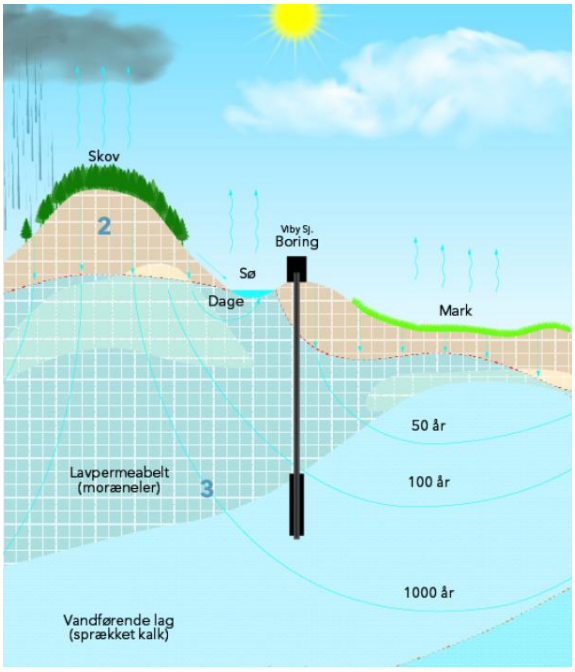
In 2024 the Danish Regions published an overview of the remaining *non-renewable* nature resources (mainly sand and gravel) in Denmark. These are materials critical to our ability to build new roads and make cement and concrete for construction.

The report estimates that **Denmark will run out of gravel in three decades**, even if we choose to use all realistically available materials. However, 80% of this material is in our oceans. This makes it economically and ecologically costly to dig them out and transport them to building sites.

Denmark can of course transport gravel from another country. But this will pressure nature somewhere else, lead to pollution from transport, and make construction even more expensive

Clean drinking water is an example of a local *renewable* resource in danger of being overused and polluted. Hofor, the water supplier of Copenhagen, estimates, that they will have **problems supplying people living Danish capital with clean drinking water by 2040**. Some wells are polluted. And the growing population in the capital use more water than the underground resources can regenerate.

It takes only minutes to draw water from a well, but it lasts decades for the rain to travel through the layers of soil to create new, clean drinking water

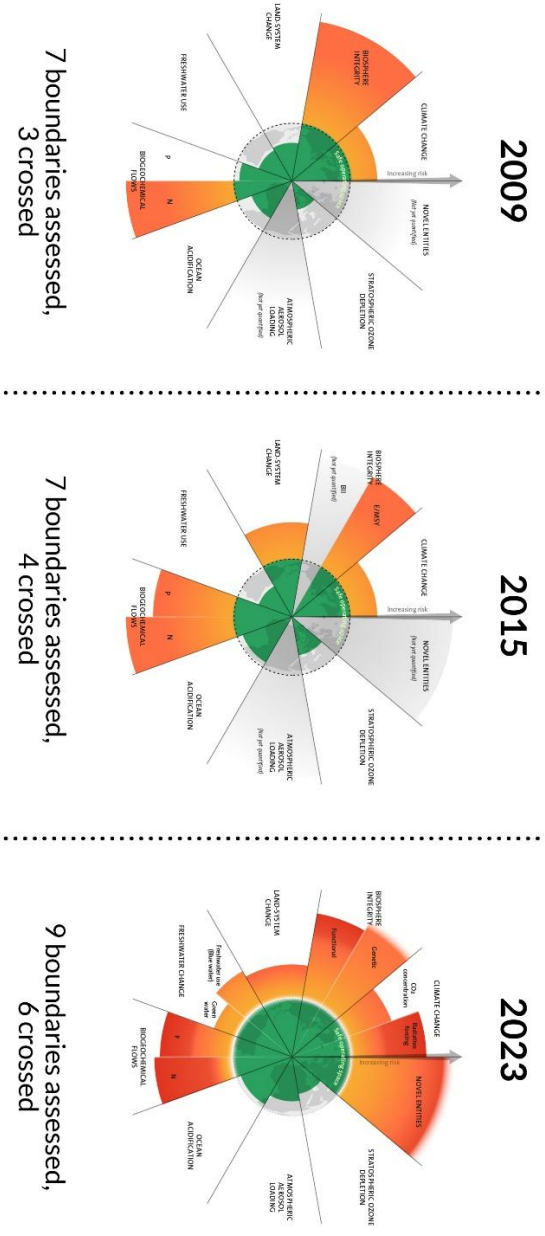


Source: Geoviden. Udsnit af figur: 'Grundlæggende om grundvand'.

The planetary boundaries

The pressure is growing on all the subsystems that make up the entire Earth System. Scientists have identified tresholds for a balanced Earth System on nine different parameters. By 2023, when scientists made their latest assessments of the planetary boundaries six of these were breached.

To get back into the 'safe operating space', humanity have to stay within the green circle. This means polluting less, giving more land back to nature, extracting fewer natural resources and letting out less greenhouse gases to the atmosphere. Read more about the Planetary Boundaries on the website of Stockholm Resilience Center.

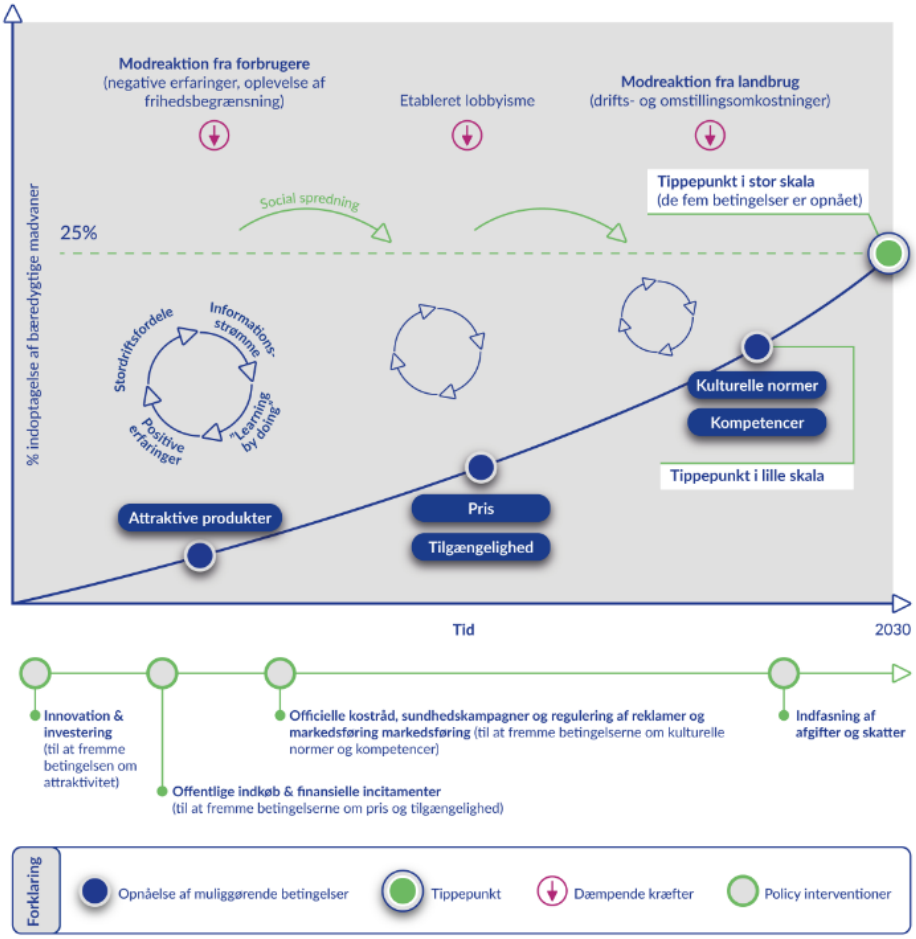


Source: Stockholm Resilience Center – Humans are stressing the Earth beyond sustainability in six areas: *Climate* (Co2 and radiation trapped in the atmosphere), *Synthetic chemicals* in the environment (i.e. plastic and 'forever chemicals' like PFAS), *Biochemical flows* (washout of phosphorus and nitrat to the oceans), *Freshwater cycles* (drinking water, rivers and soil moisture), *Land systems* (deforestation and urbanization), *Biosphere integrity* (loss of genetic biodiversity and decline in the functional integrity of the biosphere).

→ **The nature crisis is a collective action problem**. There are technologies in place that will lead to less pressure on the Earth Systems. But to implement these in real life, many people, businesses and governments have to change their behavior at the same time, including **but not limited to implementing new technologies**. To get the Earth's systems back in balance, UN now ask governments to **do all at the same time**, changing behaviors on an individual level as well as on a community, societal and global level.

→ **Human systems have their own social tipping points**. If many individuals decide to change at the same time, they can tip the societal system to a new balance. This is good to know when reporting on the possible effects of individual and collective action.

As an example, eating less meat can seem pointless as an individual behavioral change. But when many individuals do so – with the right enabling conditions – they can tip the wider food system: A greener diet becomes socially normalized, workplaces and public institutions start serving green meals, food producers see the basis for a new business model, the variety of green foods in the supermarket grows, which make more people choose green food etc.



Figur 4. Sammenhængen mellem feedbacks og muliggørende betingelser i perioden frem mod et socialt tippe-punkt. Et zoom ind på nuværende årti fra illustrationen i Figur 2. Modificeret oversættelse fra FOLU (2021).[28]

Source: Democracy X, På vej mod sociale tippepunkter i danskernes madvaner, 2024.

2 Lift citizens' literacy on the climate and nature crisis

Secondly the media must spread these facts and deepen their audiences' understanding of the nature crisis. This includes:

- **reporting on the state of the planet** and the interconnected nature crisis
- **reporting on the underlying systemic causes** of the crisis as well as on its consequences
- **documenting inspiring findings and actions** and offering rooms for solutions
- **holding power accountable to act** to counter and mitigate the crisis
- **holding power accountable for their visions of the future** and how they want to get there
- **facilitating inclusive democratic debates and conversation** about these issues

3. Report on the future

Reporting on the planetary boundaries and the nature crisis is not only doom and gloom. **An equally important task is to investigate possibilities for positive change and exploring the routes to desirable futures**. Once you know, that the projected future is rather dystopic, it becomes obvious, that a serious conversation is needed around which other plausible futures might be possible, and how to get there.

Reporting on the future takes journalism out of its comfort zone – the concrete and the now – into a much fluffier zone of 'what if' and 'perhaps'. But there is no reason why journalists should not be able to facilitate and qualify this important conversation.

Journalists can start by asking all kinds of people about their visions and hopes for their own future and lay out the competing visions. **We can insist that politicians are transparent about their visions for the future and hold them accountable to work for that vision.**

Beat journalists can work with experts in transportation, energy, housing, urban planning, nature restoration or anthropology etc. to do scenario building to qualify the possible routes to the desired futures. And we can engage people in a wider debate about which routes a desirable.

If this becomes too technical and impossible to communicate, we can also draw on artists and authors to do imaginaries that help our audiences sense and feel how alternative futures might be to live in. Or simply report more on the many people and organizations that already do all this.

Doing journalism that only looks back is like insisting to steer a car while only looking at the rear mirror.

Doing journalism that narrows its perspective to business as usual is like driving full speed down 'highway to climate hell'*, insisting that we should not look to the sides for exits.

Doing journalism with a future perspective is taking serious medias role in a democracy that needs to take big decisions about its own future.

* Quote: UN general secretary Antonio Guterres'

4 Report on people who act

Media institutions wishing to engage with the nature crisis in ways that empower their audience should look for people in action and tell the stories of doing. Stories of *how*.

Media makes heroes. To nourish human agency, we can choose to show more people who have taken action to build the future they want to live in. Frontrunners who try to reinvent building, agriculture, finance, fashion and many other industries. Or simply the way they live.

- Journalists can inspire and empower by reporting – constructively, curiously *and* critically - on peoples visions for the future and their struggle to get there. And think twice before adapting narratives served to the media by those who might be disrupted by these frontrunners. Industries with vested interests might depict these rebels as unrealistic dreamers or outliers. But the media doesn't have to.
- We can be curious about the cohort of people trying to create an irresistible new, green food culture, like the New Nordic food revolution, that lifted Danish food culture 20 years ago.
- We can follow the young startups who compete to invent the next building material for prefabricated walls - made of hay, fungus, hemp or other renewable and biodegradable materials.
- We can make reality programs about the young families trying to innovate perma-culture farming or the woman, who quietly made a peaceful revolution in a public kindergarden, that haven't used meat for five years and involve children and parents in the process.
- We can also tell stories of how families with average lives manage to fly less, repair their clothes, green their diets or gardens, cut their energy bills and live inspirational rich lives with small environmental footprints.
- Media can even choose to tell stories of businesses that decide *not* to grow, explain the thinking done by economists that study degrowth, follow how citizens assemblies have asked their politicians for more green taxes or harder regulation, or how a community organizes, because they *want* windmills in their back yard.
  All the stories that challenge our common assumptions of what is possible or realistic.

Which people, journalists do or do not take seriously or choose to depict as heroes or fools, have an impact on the stories people tell about themselves and who they strive to be. **By showing the sprouts of future fit businesses and practices and people trying to create alternatives to business as usual, media can help inspire others to find their own way** of contributing to solutions in their own field.

5 Enhance self-efficacy

Behavioral scientists have shown that in a crisis, human beings needs self-efficacy to manage well. In short, feeling able to act gives us self-confidence and hope. Being *unable* to act makes us depressed, apathetic and hopeless. Therefore, letting people know how to be part of tackling the crisis and create the future they want, is core to reporting responsibly on the nature crisis.

One good thing that came out of the Covid-19 pandemic was important knowledge of how to bridge the gap between knowledge and action. Danish researchers, who analyzed citizens' views

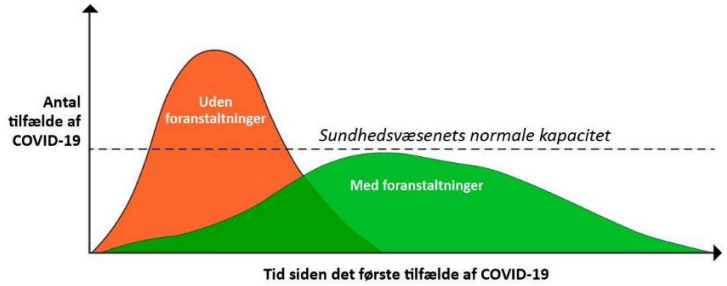
and behavior during the pandemic, found that they were closely linked to two factors: People's perception of danger, and their self-perceived competencies (self-efficacy) in handling these threats. The more scared and the more able to act, the more willing people were to accept regulation and change behavior. These researchers also found that when it comes to climate, people have plenty of fear, but very little self-efficacy. People don't know what to do.

Danish original "Analysen viser således, at et særligt opmærksomhedspunkt kan være at lære fra coronahåndteringen i forhold til at styrke borgernes klimamæssige handlekompetence og i højere grad kommunikere om klimakrisen på en måde, som taler til denne handlekompetence."

" The analysis thus indicates that a particular point of attention could be to learn from the management of the pandemic to strengthen citizens' climate-related self-efficacy and to communicate about the climate crisis in a way that appeals to this competence to act."

From the report: "Hvad kan vi lære om kriseadfærd fra corona-pandemien?"
by Louise Halberg Nielsen, Andreas Roepstorff
and Michael Bang Petersen, Aarhus University.

During the pandemic, Danish politicians and health authorities were communicating very clearly why behavioral change was important, that it could save peoples' lives, and exactly which changes were expected of every individual.



Figur 2. Epidemikurve udarbejdet af Statens Serum Institut

The above model became famously known, because it was shown again and again to teach all Danes the systemic implication of the individual's action. If people kept infecting each other, hospital-capacity would not be able to keep up. If people stayed home from work and put on masks when going out, society could keep the virus-levels down to a manageable level.

But in the context of the climate crisis, politicians have so far hesitated to do the same. Authorities have still not asked people for concrete behavior changes or explained the systemic implications of individual actions. Not because there is a lack of knowledge of what works, but because telling people, they need to eat less meat, fly less, drive less, buy less stuff and live in smaller houses might not make you popular.

Politicians have a hard time telling people this. Media should not.

To sum up a forest of behavioral research about citizens' basic needs in a crisis:

1. To understand what is going on around them
2. To know what they can do about it and be capable to do so

3. To trust that others do the same
4. To see leaders take relevant action on a systemic level
5. To believe that their own and society's actions matter and that things can get better

Most of these needs can (only) be met when society has a well-functioning media system, that performs critical thinking and constructive journalism, supports citizens' climate literacy and holds leaders accountable to take relevant action on a systemic level.

6 Be realistic about the world and humanity

Journalism holds the potential to enhance cohesion and societal resilience – or to deepen polarization and worsen society's problems.

In times of existential crisis for life on Earth, when cohesion and human agency is needed more than ever, it is crucial to a society's resilience, that citizens have a realistic picture of the world - including a realistic level of trust in other people.

Trust enables us to take relevant action together to counter and mitigate the nature crisis and create the future we want. Media have the power to build or destroy that trust and should use this power responsibly.

Let's imagine two different news outlets. We could call one 'The Destructor' and the other 'The Enabler'.

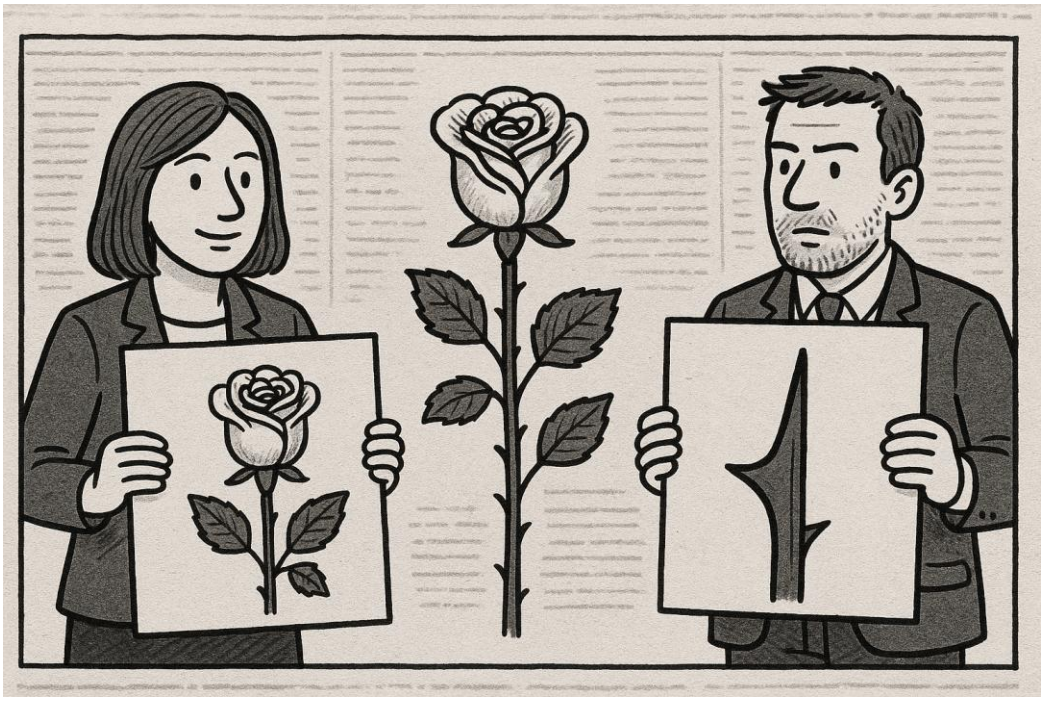
If you get your news from The Destructor, you get the impression that this world is filled with morons; that nothing ever works and never will; that no one ever does anything good; and that anyone in a trusted position is only there to abuse their power for their own gain.

In short: The world is doomed, the system is broken, you can't do anything about it - and no one else will either, because they are solely driven by their short-term self-interest. Which is why democracy will never get the job done.

If you get your news from 'The Enabler', you get the impression that this world is mostly filled with decent people, trying to solve problems together. Even though there are idiots out there, luckily, they are a minority. Lots of the time, lots of stuff does work in your society, despite its flaws and potential for improvement. Power is sometimes, but not always abused. And although scandals happen and corruption exists, there are also plenty of responsible people doing their best for the common good. In spite of some people sometimes acting violently, carelessly and egoistically - most folks are like you and me; empathetic, peaceful and hardworking - trying to do something meaningful.

In short: The world is a diverse place, it is what we all make of it together, and you and everybody else play an important part in forming it. For better and for worse. Systems built by humans can be changed by humans. That's what democracy is for.

When media give a nuanced, complex portrait of the world, it brings realism to the public conversation and makes cohesion, empowerment and solutions possible – while the simplified and overly negative, tabloid portrait of the world leads to depression, polarization, apathy and loss of faith in democracy.



Source: Generated with the use of ChatGPT-4o

Whether you work in journalism or not, you might ask yourself this question:

How much do the various media institutions in your community talk into each of these world views? And which picture of the world seems closest to the reality you experience outside of media?

What can you do to choose and enable a media system that give you a realistic picture of the world?

Today, many editorial rooms work consciously with journalism's inbuilt negativity bias. The news media of the real world are a diverse business - and often better than their reputation.

But I do believe that most media institutions could create a more realistic and more nuanced portrait of the world and the people in it than they do today. And that this in itself will create a better world. Even in a time of crisis. Or especially in a time of crisis.

To be clear: This does not mean letting go of critical thinking or critical journalism. Society needs that more than ever, as the next chapter will show.

Chapter 6

The art of spotting greenwashing and lobbyism through narrative-building

As we learned in the chapters on systemic thinking, creating shared narratives or paradigms are among the most effective ways impact a system. Lobbyists know this better than anyone.

We all know that political leaders across the globe have agreed to work for a global shift away from an economy dependent on fossil fuels. What we *do not* all know is that this shift is broadly backed by the voters.

I can state this with such confidence, because it has been documented thoroughly by political and social scientists. If this is news to you too – take a look at this visualization of a recent UN-survey:

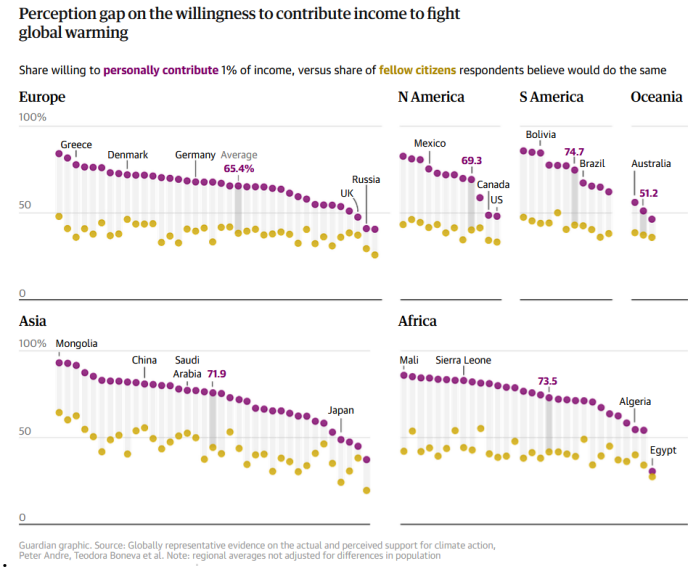
Independent surveys come to the same conclusion again and again: A vast majority of people on the planet worry about climate change and want their governments to do more to counter it. The

global survey by UNDP concludes it to be 80 percent of citizens across the globe. Even the most CO2-amitting countries, want their government to make stronger climate commitments (see chart below).

Surveyed country ranked by annual CO2 emissions, including land-use change as of 2023[31]	Proportion of people who wanted stronger climate commitments
China	73%
United States	66%
India	77%
Russia	66%
Indonesia	86%
Brazil	85%
Japan	74%
Mexico	88%
Iran	88%
Saudi Arabia	79%
Canada	66%
Germany	67%
Republic of Korea	88%
Democratic Republic of the Congo	81%
South Africa	77%
Türkiye	87%
Australia	74%
United Kingdom	84%
Italy	93%
France	80%

Worrying about climate proves to be a shared feeling by the majority of humans on this planet. But strangely enough most of us feel alone with our worries. **Somehow the majority of humanity have been let to believe that they are a minority** surrounded by climate sceptics or people unwilling to make any personal sacrifices to mitigate the crisis.

In all countries, there is a large gap between what *we are willing to do ourselves* and what *we think others are willing to do*. This is beautifully illustrated in the graphic below from the Guardian. It shows the share of a population that say they would be willing to pay 1% of their income to climate mitigation (purple dots). And how large a share of the population, they *think* would be willing to do the same (yellow dots).



Source: The Guardian

The misconception about the willingness of the general population to invest in climate mitigation is a global phenomenon. And not by coincidence. **This is a misconception carefully nurtured by professional narrative builders.**

Researchers and journalists have documented how campaigns have been orchestrated and coordination between big oil, plastic, utilities and agrichemicals companies by building and nourishing narratives tailored to avoid regulation of emissions, chemical pollution or extraction of resources.

For years, some of the world's largest companies have worked hard to depict climate skepticism and anger against climate regulation as the norm, while framing the wish for change and support for regulations as extremist or elitist views.

These vested interests have invested heavily in **lobbying campaigns designed to 'deny, delay and derail' climate regulations** deemed harmful to their short term economic interests. As documented by a host of academic papers and reported on by investigative journalists dedicated to unveil lobbyist activities through the Global Investigative Journalism Network, by climate activist researchers at DeSmog and many more (links to a selection of these below), decades of systematic disinformation campaigning have worked to install skewed narratives on the green transition.

The playbook includes boosting negative emotions towards climate regulation by exaggerating and overreporting on those who are in fact against regulation and by paying scientists to come to certain conclusions. And what surprised me the most: By setting up fake NGOs who pretend to speak for civic society and protest climate regulation and lobbying politicians, pretending to talk for civic society or small farmers.

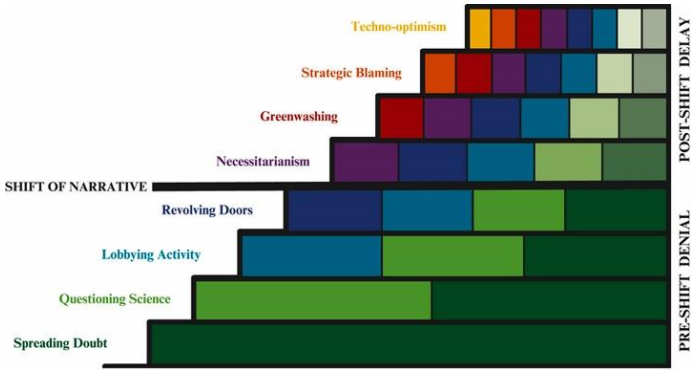
Billions of dollars and Euros have been spent to convince people to believe that their fellow citizens are less willing to act for the climate than they really are. A misconception that rubs off on politicians, who have been let to believe that the resistance against a green economy has a much broader appeal in the general population than is the case.

Listed below are a selection of the academic papers and journalistic investigations that have documented how lobbyists work to change discourses and narratives to delay climate regulation. These are good learning grounds for journalists who want to practice spotting these discourses.

9 papers on the art of lobbying through narrative building

1. Orchestrating the Narrative: The Role of Fossil Fuel Companies in Climate Discourse

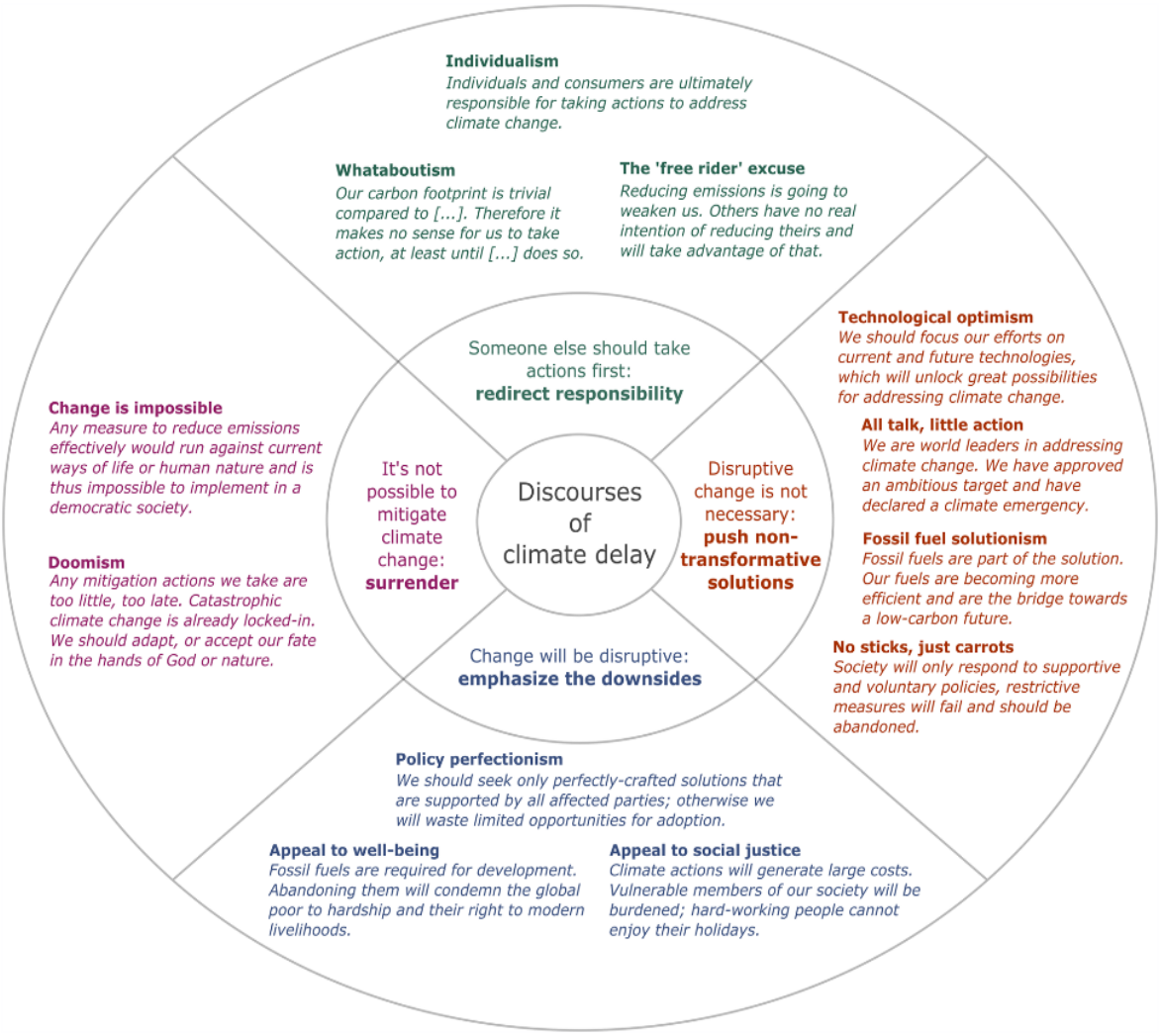
Researchers from Amsterdam University documents how fossil companies have shifted from *denial* of climate change to more subtle strategies *delaying* the transition to green energy.



Source: *Renewable and Sustainable Energy Reviews* (ScienceDirect)

2. Discourses of Climate Delay

One of the most helpful tools I have found to spot narrative building is this wheel of climate delay, developed by researchers from Potsdam Institute for Climate Mitigation. The researchers have analyzed arguments put forward and enhanced by fossil industries and mapped out a typology of the most common discourses used to delay climate action.

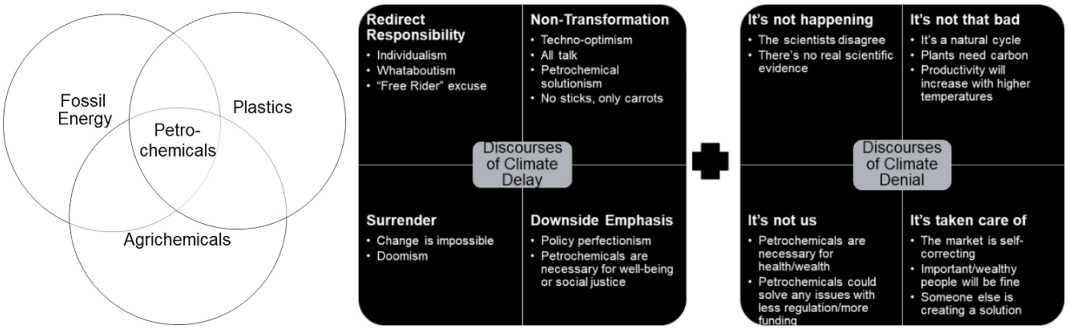


Source: *Global Sustainability* (Cambridge University Press)
The researchers behind the typology talk you through each of the arguments used to create public discourses that build support for delaying climate action in THIS VIDEO.

A current example is the attempts to roll back climate regulation in EU using the 'free rider' argument: European companies will be weakened in the competition with US-companies not met with the same regulation.

3. Networks of Climate Obstruction: Discourses of Denial and Delay in US Climate Policy

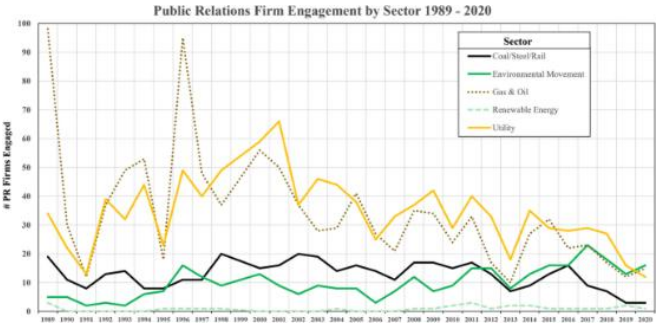
Scientists from Columbia, Northeastern University and The National University of Ireland has analyzed more than 100.000 tweets. The study identifies coordinated discourses among fossil fuel, plastic, and agrochemical companies, trying to avoid climate regulation by denial or delay.

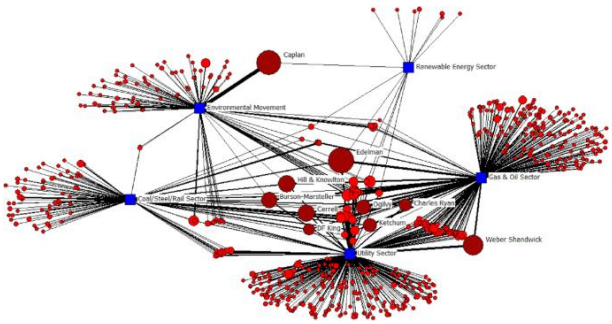


Source: *PLOS Climate*

4. The Role of Public Relations Firms in Climate Change Politics

An overview made by researchers from Brown University of the extent and nature of involvement of PR firms in climate political action. This study reveals how PR firms work for fossil fuel companies to shape public opinion and political decisions through campaigns and third-party groups.





Source: *Climatic Change* (Springer)

5. Deny, Deceive, Delay (Vol 3): Climate Information Integrity Ahead of COP28

Climate movement researchers have documented how fossil fuel interests and state actors spread misinformation online to undermine climate action, especially before global climate COP28.

In 2023, during the months that led up to COP28, 13 fossil fuel companies was massively present on social platforms and financed 2,562 ads on Facebook alone, pushing narratives to derail or delay regulation.

Source: *Climate Action Against Disinformation (CAAD)*

6. Assessing ExxonMobil's climate change communications (1977–2014)

Together with other scientists, the American Harvard professor and science historian Naomi Oreskes (most famous for the book 'Mechants of Doubt), have analyzed how ExxonMobil has misled the public about climate change.

The researchers demonstrate how the fossil fuel company's advertorials (adds that is written and set up to look like articles) in The New York Times spanning 1989-2004 overwhelmingly expressed doubt about climate change as real and human-caused, serious, and solvable, whereas peer-reviewed papers and internal reports authored by company employees by and large did not.

The red pillars indicate the number of publications that cast doubt on the human causes, the seriousness and the solvability of climate change. It shows the remarkable difference between the little doubt expressed internally, in peer-reviewed and non-peer-reviewed magazines – and the exaggerated doubt expressed in the advertorials written to influence the public narrative about climate change

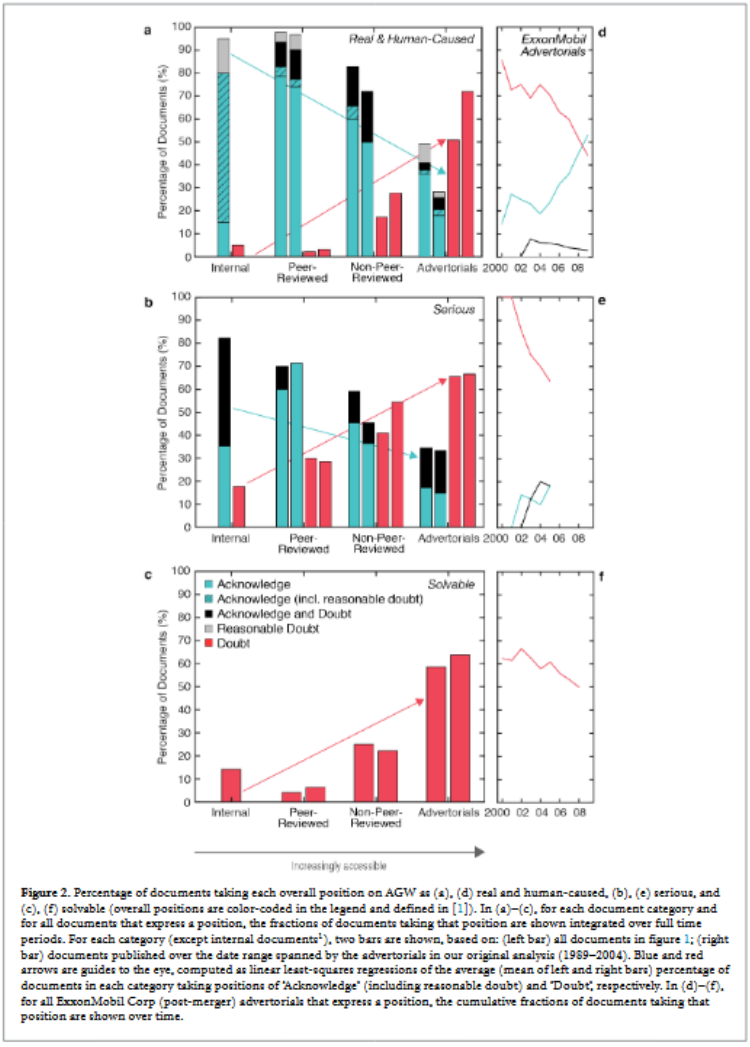


Figure 2. Percentage of documents taking each overall position on AGW as (a), (d) real and human-caused, (b), (e) serious, and (c), (f) solvable (overall positions are color-coded in the legend and defined in [1]). In (a)–(c), for each document category and for all documents that express a position, the fractions of documents taking that position are shown integrated over full time periods. For each category (except internal documents[1]), two bars are shown, based on: (left bar) all documents in figure 1; (right bar) documents published over the date range spanned by the advertorials in our original analysis (1989–2004). Blue and red arrows are guides to the eye, computed as linear least-squares regressions of the average (mean of left and right bars) percentage of documents in each category taking positions of 'Acknowledge' (including reasonable doubt) and 'Doubt', respectively. In (d)–(f), for all ExxonMobil Corp (post-merger) advertorials that express a position, the cumulative fractions of documents taking that position are shown over time.

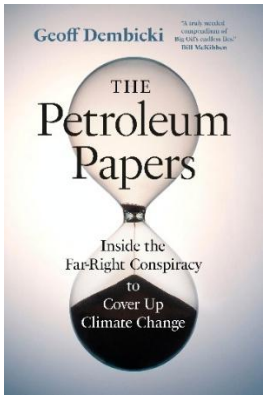
Source: Environ. Res. Lett. 12

7. The Power of Big Oil

A three-part documentary exploring how the oil industry has systematically denied, cast doubt upon, and delayed climate action over decades. Also published as podcast.

Source: *Frontline Documentary Series* (PBS)

8. The Petroleum Papers: Inside the Far-Right Conspiracy to Cover Up Climate Change



Source: Greystone Books

Canadian investigative journalist Geoff Dembick documents how the oil industry intentionally hid the results of their own climate science and obstructed regulation through misinformation and political influence with the parties most open to help them.

9. The Disinformation Campaign

Source: The Forever Pollution Project

The Forever Pollution Project is a cross-border and interdisciplinary journalism investigation launched in 2022 to track the PFAS crisis across Europe. In January 2025, the journalists uncovered the narrative building behind avoiding regulation in 'The Forever Lobbying Project'.

It might seem an overwhelming - almost impossible - task for one journalist or one media institution to counter these well-funded and organized disinformation campaigns and manipulation of the public sphere.

But when journalists work together and collaborate cross borders, media **can be a corrective to false narratives**; especially if they take a systemic view to the story.

Two recent examples:

In April 2025, climate journalists across the western world began publishing stories about the 'silent majority'. The stories started in Deutche Welle, The Gurdian, AFP, Politico, Sentient, Publica, NBC News, Zetland, BBC, Taz and The Nation, from where the information is spread to other media outlets. All written by journalists, who work together to correct the false narrative that most people do *not* want climate regulation, even if the opposite is true. Since it takes time to counter a well-lobbied narrative, the journalists gathered in the network Cover Climate Now plan to keep writing about the silent majority all year.

In January 2025, a team of 46 journalists from 16 countries revealed the ongoing lobby campaign against a proposed ban on PFAS-chemicals in the EU. The industry campaign focused on how expensive it would be for business, if governments were to ban PFAS. In the 'Forever chemicals'-project journalists looked at the problem from society's viewpoint and focused on the price of *not* banning PFAS. They documented that it would cost society €2 trillion in clean-up charges over 20 years, if PFAS-pollution was allowed to go on. The Forever Lobbying Project was organized by the journalistic nonprofit network Arena for Journalism in Europe. Look them up to see other cross boarder investigations. Or – if you are a journalist – join one of their workshops or networks for inspiration and cooperation.

*

To fulfill the media's role in a modern democracy, journalists must be able to spot greenwashing and lobbyism in whichever forms it comes. **It is part of sanitizing the information space and ensuring transparency.**

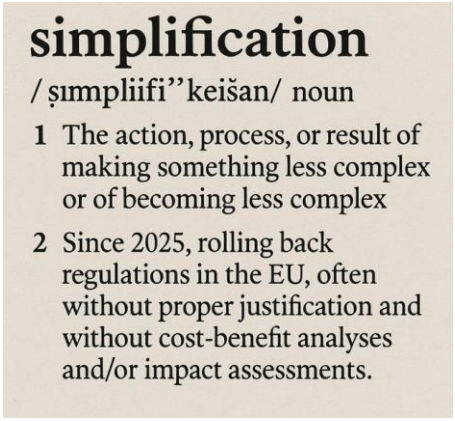
This is not less important, when the greenwashing-by-narrative-building is done by governments or politicians. In this sphere, we call it 'spin'. A recent example is the comprehensive campaign to deregulate and roll back green policies in Europe. In this case industry-lobbyists and politicians work closely together.

European democracy is a slow grinding machine, and it has taken it years to negotiate and decide on directives that oblige European companies to report on the emissions from their production throughout the supply chain. The regulation was passed just before the election of the European Parliament and the appointment of a new Commission in 2024

2025 has been a historic roll back of green regulation from both these institutions.

For the first time in the history of the European Union, deregulation is happening at a large scale. Yet it is heavily underreported by the press. Perhaps because it takes a professor in ESG-policies to understand what is going on behind the narrative building of 'de-bureaucratization', 'enhanced efficiency', 'competitiveness' and 'simplification' of the European Green Deal.

The German Professor and associate dean at Copenhagen Business School, Andreas Rasche, is an expert in companies' green policies, and he has followed green regulation closely for decades. In June 2025, in a LinkedIn-post, Rasche shared this new explanation of the word 'simplification'– a word central to the argumentation for rolling back the EU climate- and environmental regulation.



For journalism to serve as a clarification tool for democracy and to secure transparency of public policy for the public, we journalists must train our newspeak-spotting muscles. And sometimes seek help from independent and knowledgeable observers like this professor.

*

I will end this chapter with one more example of well-executed narrative building that has had transformative effects on society. This time from my own backyard: Danish politics. Listening to Danish politicians speeches in the UN, you might get the impression, that the Danes are on top of the green transition. Now the rest of the world just have to do like us.

Let's look at the actual numbers.

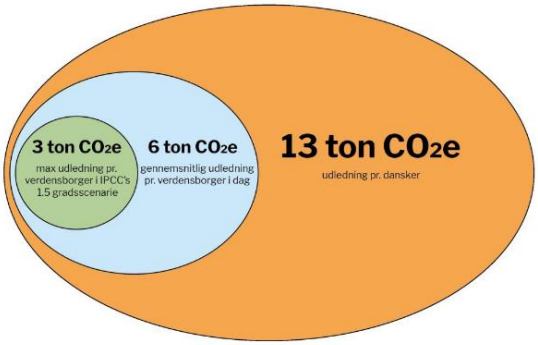
An average Danish voter is among the richest human beings on the planet. Since we spend much more money than almost anyone in the history of this world - building houses, driving cars, flying planes, eating meat and buying stuff - we are also among the humans on Earth, who leave the heaviest footprints on nature and climate. It should't come as a surprise.

But the Danish government has been very effective at building another narrative: The story of Denmark as a frontrunner country – a showcase of how growth and high consumption levels can go hand I hand with being environmentally- and climate friendly.

Facts are, that - even though the Danish footprint on the planet would have been even bigger, if we had not insulated our houses, converted to electric cars, build windmills and produced energy effectively - if other countries did like Denmark and extracted, emitted and polluted as much as our country - it would lead to a planetary catastrophe.

In fact, on many parameters, Denmark is falling behind our neighboring countries. For example, 23 out of 30 European countries are in front of Denmark when it comes to electrification, according to the trade organization Dansk Erhverv.

The figure below shows the average Dane's emissions (orange bubble) compared to the average citizen in the world. The tiny green bubble is the CO2-budget per citizen, if we were to live up to the Paris-agreement, the light blue one is the average emissions from one person on Earth.

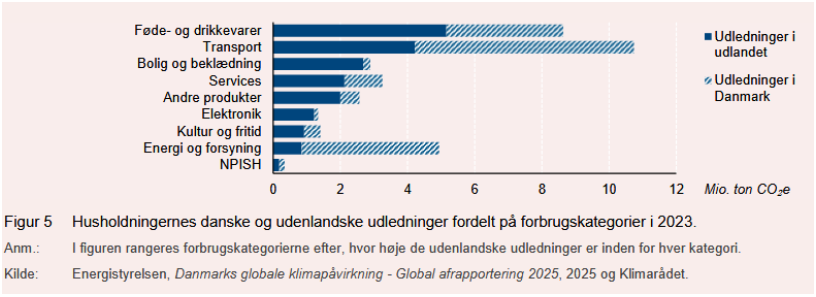


The figure is built on calculations from the independent think tank, Consito. It includes all emission from Danish citizens. **But this is not how governments count.** In the agreed way to do climate accounting to meet the Paris-accord, governments leave out some rather big posts.

Kilde: Consito

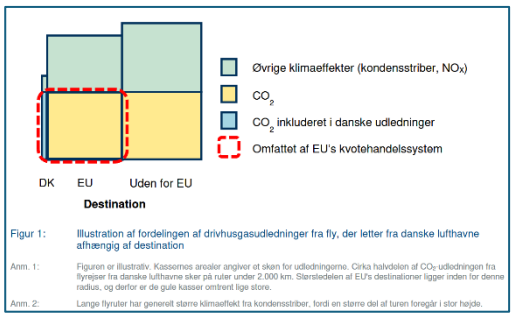
There are three main reasons why the governments official numbers deviate so massively from the real climate emissions.

1 To start with, **Denmark does not account for all the goods, we buy from other countries**. This means that our consumption of clothes does not count, along with our electronics and much more.



Figur 5 Husholdningernes danske og udenlandske udledninger fordelt på forbrugskategorier i 2023.
Anm.: I figuren rangeres forbrugskategorierne efter, hvor høje de udenlandske udledninger er inden for hver kategori.
Kilde: Energistyrelsen, *Danmarks globale klimapåvirkning - Global afrapportering 2025*, 2025 og Klimarådet.

2 Secondly, in accordance to the UN-agreements, **governments leave out the international flights**. This means that the share of CO2-emissions that Danish governments actually *do* account for in the national climate accounting is the tiny, almost invisible pale-blue line to the left. These are numbers from the Danish Climate Counsil, an independent unit set in place to hold Danish governments accountable for their green promises. The emissions outside of the red box is not accounted for in any country's climate accounting, Danish or European. This also means that even though, one out of three Danes are frequent flyers, this does not disturb the narrative of green growth.



Figur 1: Illustration af fordelingen af drivhusgasudledninger fra fly, der letter fra danske lufthavne afhængig af destination
Anm. 1: Figuren er illustrativ. Kassernes arealer angiver et skøn for udledningerne. Cirka halvdelen af CO_2-udledningen fra flyrejser fra danske lufthavne sker på ruter under 2.000 km. Størstedelen af EU's destinationer ligger inden for denne radius, og derfor er de gule kasser omtrent lige store.
Anm. 2: Lange flyruter har generelt større klimaeffekt fra kondensstriber, fordi en større del af turen foregår i stor højde.

Source: Klimarådet / The Danish Climate Counsil

3 The third reason major why Danish climate ministers can brag of their green numbers in UN, is the odd fact, that **millions of tons of wood burned in power plants to heat Danish homes, count as a blank zero**. Again, this falls within the rules of the international climate agreements.

This goes all the way back to when the climate credit system created in Kyoto in 1997, when governments first promised each other to reduce greenhouse gas emission. But to reach a

compromise and get as many countries as possible to sign Kyoto protocol, the negotiators made only included fossil energy. Burning wood or crops was considered Co2-neutral.

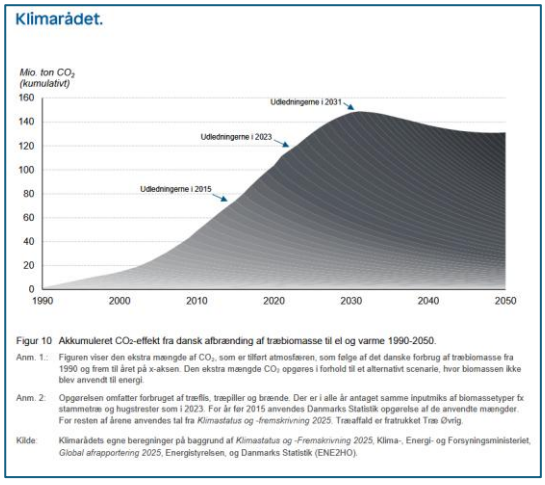
This is a system that creates a positive feedback loop for energy produced by burning wood.In Denmark this system has had a transformative effect on our energy-sector, as old coal-fired plants have been repurposed to burn wood at a large scale.

There are two opposing narratives around this transition.

- The forest industry argue that the burning of wood is sustainable, because, cutting and burning one tree while planting another – in this narrative – means zero emissions.
- And then there is the other narrative, told by experts in dynamics of the Earth Systems, wo say that burning wood is a triple sin, since it not only emits CO2, but also kills old trees that otherwise sequester more CO2. And thirdly by creating higher demands for wood, it risks leading to harmful change of land use, replacing biodiversity-rich native forests, that are effective CO2-sinks with plantations that are less effective CO2-sinks and lead to biodiversity-poverty. The demand for wood also lead to conversion of fertile farmland to production-forest which again can lead to untouched nature to be converted to farmland.

While the first narrative is really easy to understand, the second is complicated, and has only in recent years found its way to the headlines through niche media and documentaries.

Since the Kyoto Protocol was signed, Danish power plants have shipped in millions of tons of wood pellets from neighboring countries, the US, Canada and the Baltics. In 2025, the majority of the 'green energy' used in the Danish heating sector is still wood.



Source: The Danish Climate Counsil

The figure shows the accumulated CO2-effect from wood in the Danish energy sector since 1990. According to the Danish Climate Counsil, by 2030 Danish wood-burning will have added around 150 mio. ton extra greenhouse gases to the atmosphere. In Denmark's green transition-narrative, this energy is painted green and counted as zero emissions.

In fact the world would be 'screwed', if all countries did like Denmark, according to an American professor quoted in the Danish business paper Børsen.

All this wood-burning probably would have never taken place, if internationally, governments have not agreed to the narrative that wood = green energy. It is this paradigm has nudged the Danish government to convert from coal to wood and helped the country meet it's climate goals.

This means that Denmark will only on paper – but not in the physical world - have reduced the levels of CO2 as promised in the Paris-agreement by 2030. Green claims not reflected in the

physical world is what we normally call greenwashing. But only if we manage to look through spun narratives.

To conclude:

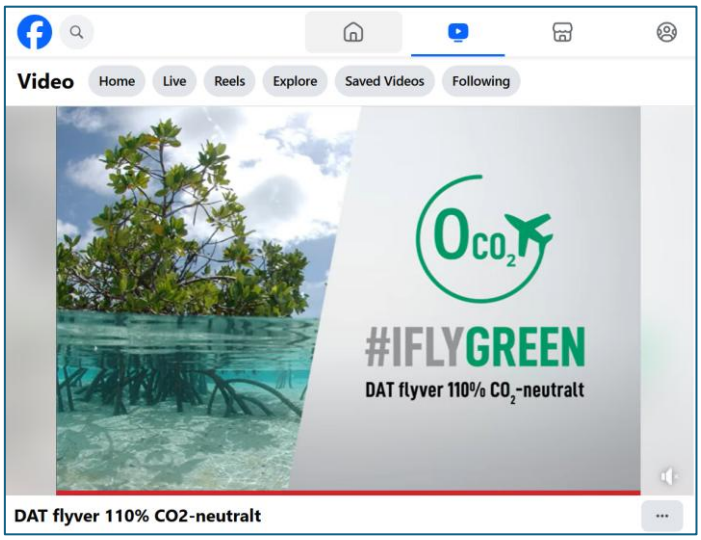
The world needs journalists who can see through greenwashing. Not only in the forms of very concrete false narratives of net-zero this-and-that. But also, in the more sophisticated forms like lobbying through narrative-building.

Being aware of these narratives is crucial to fulfilling journalisms core job in democracy: to keep the public informed of what is actually going on in the world.

But holding power accountable for this kind of greenwashing is a much more complicated task than revealing old fashioned lies.

Using system thinking skills, being aware of the power of narratives and paradigms, helps journalist spot these more advanced approaches.

If the media want to investigate why - in spite of all the stories of green transition - the global emissions have never been higher; journalists must look through the narrative building, demask them for the public to see, and **journalists must report the facts, rather than the stories that distort them.**



Even if public control with greenwashing has tightened, there is still work to be done for critical journalists.
In this campaign on Facebook, summer of 2025, the local Danish airline, DAT claim to be '110% CO2-neutral'.
Using the hashtag #Iflygreen DAT push the narrative that flying can be not just neutral – but positive - for the climate.
So far this campaign stands uncontested.

DOING JOURNALISM ON PURPOSE

Chapter 7

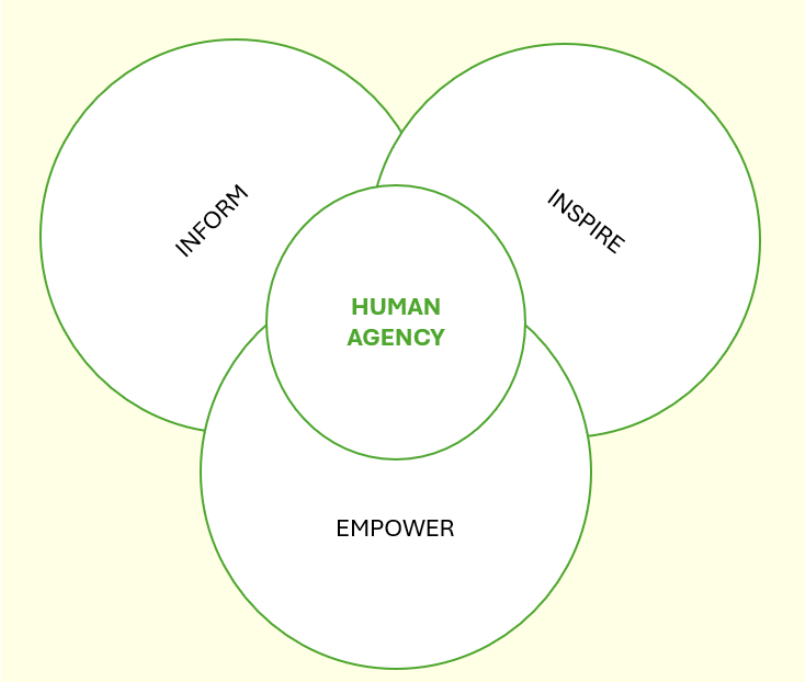
The Media System and its crucial role in democracy

Since the purpose of a system shapes its function and output, we must be aware of what role the media (ideally) should play in a democracy.

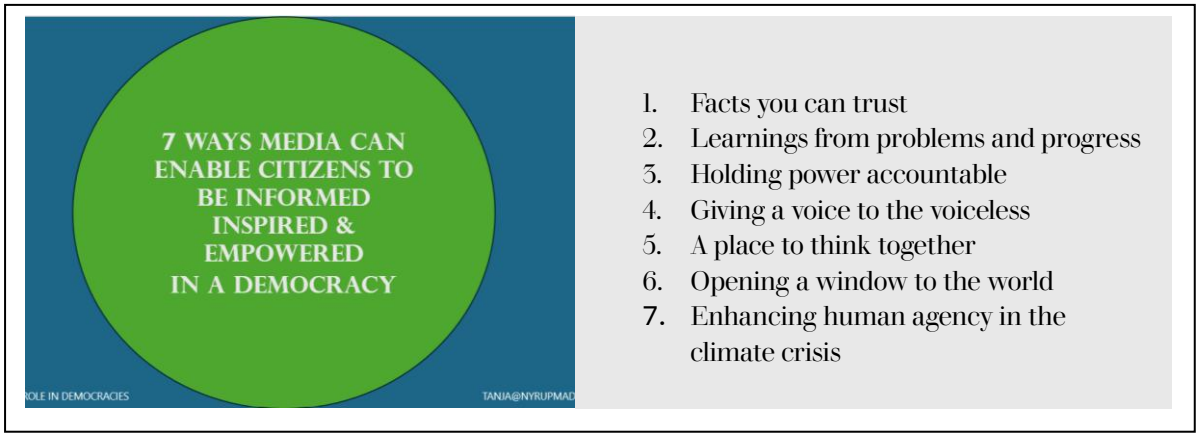
The purpose, I line out for the media in this chapter, is born from the paradigms that I cannot divorce myself from: That democracy is the best possible (or the least bad) system we humans can organize ourselves in. And that for democracy to function, we need a free, independent press with a clear idea of why it is there.

An ideal purpose for the media system, the functions that should be built into this system, and the results I imagine, this would enable:

The core purpose of the media in a democracy is to inform, inspire and empower citizens in order to enhance democratic competency and human agency to create the future we want to live in.

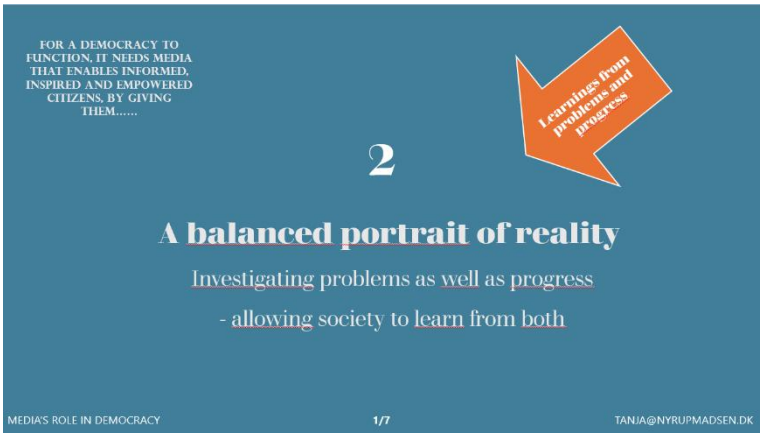


This can be broken down to seven functions, including a special assignment for the media, caused by the extraordinary circumstances of the planetary crisis.



Job number one for media to enable informed, inspired and empowered citizens is to give them sober and nuanced information about the world, sharing knowledge and reporting on current affairs in their relevant context. A decent pool of shared knowledge is the precondition for having a meaningful democratic dialogue.

Being aware of bias, underlying premises, narratives and power structures is part of solving this task professionally. Journalists should not only mirror the dominant narratives in society but also point out when prevailing voices are at odds with the observed reality, expert knowledge or competing paradigms.



Media must enable citizens to get a nuanced and balanced portrait of reality. To inform, inspire and empower citizens, journalists must investigate problems as well as progress, allowing society to learn from both.

Media must facilitate and qualify public conversations. Media must be a room for solutions for the common good, a place to debate and think together. And a place where citizens get insight into the views, values and conditions of their fellow citizens.

Democracy cannot function without transparency about its workings. Therefore, the media must give citizens insight into the democratic processes and decisions. This underscores the importance of a free press, independent from powerful interests; free and able to demask spun narratives and attempts to manipulate the public, and free to investigate wrongdoings, conflicts of interest, abuse of power and to hold power to account – in politics as well as in other power arenas of society.

To enable human agency and empower citizens, the media must bridge the gap between those in power and those far from powerful positions by documenting the consequences of political decisions for all citizens, especially for those who have little access to power, and by including these citizens' experiences, thoughts and views on current affairs and societal discussions.

The media must give people access to knowledge of the world outside their own community, country and region. Keeping citizens informed of how actions in one part of the world impact people in other parts, inspiring them to be part of the global society by enabling mutual understanding between the cultures and countries and informing about international conflict and collaboration.

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The nature crisis is not just another story. It is a driver of change in all areas, journalists report on. Therefore, to fulfill their purpose, journalists must understand the nature crisis and its consequences, supply citizens with the information they need to adapt to the changed living conditions and be part of the solution. And hold politicians accountable to work for the future their community wants.

The unwelcome news about the nature crisis is that - even though most people are already worried about the climate - the scope and gravity of the crisis is deeper than most people realize. **The good news** is that there are more ways out of this crisis than most people think.

Media play a crucial part in raising the awareness of both. To do this, all journalists and editors must be sufficiently informed and able to integrate the current knowledge about the planetary crisis and its consequences in their general reporting. This means that the nature crisis is no longer just a story for the environmental corner of the newsroom.

The Planet is heating at an accelerated speed. Soil- and water systems are out of balance. Entire ecosystems break down, species go instinct at a historic speed, and natural resources are depleted. This changes the living conditions for life on Earth as we know it.

For society to be able to counter and mitigate these nature crises and adapt to their consequences, we need responsible media to play its part.

If you are curious to learn more about thinking in systems, I encourage you to dive into Donella H. Meadows' original books or look out for some of the many clever people working with this professionally – they are all over, except in journalism.